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NORTH CAROLINA

Medical Journal

The Official Journal of the NORTH CAROLINA MEDICAL SOCIETY □ □ □ January 1979, Vol. 40, No. 1

IN THIS ISSUE:

CURRENT CONCEPTS: Radiation Therapy in Neoplastic Disease: Carolyn Ferree, M.D.

Pseudoembolization of the Femoral Artery: Francis Robicsek, M.D.

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Sept. 26-30—Southern Pines

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Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed, drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly, and debilitated to preclude ataxia or oversedation.

hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur discontinue drug. Isolated reports of neutropenia, jaundice, periodic blood counts and liver function tests advisable during long-term therapy.

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HOUSE OF DELEGATES Meetings scheduled

Notice to: Delegates, Alternate Delegates, Officials of the North Carolina Medical Society, and Presidents and Secretaries of county medical societies.

Sessions of the HOUSE OF DELEGATES will convene in the Cardinal Ballroom, Pinehurst Hotel, Pinehurst, North Carolina, at the following times:

Thursday, May 3, 1979—9:00 a.m.—Opening Session
Saturday, May 5, 1979—2:00 p.m.—Second Session

A member of the CREDENTIALS COMMITTEE will be present at the Desk in the Hotel West Lobby, Thursday, May 3, 1979, from 8:30 a.m. to 12:30 p.m. to certify Delegates. Delegates are urged to bring their Credential Cards for presentation at the Registration Desk, Delegate Badges must be worn to be seated in the HOUSE OF DELEGATES.

REFERENCE COMMITTEE HEARINGS

Reference Committee hearings are scheduled to begin Thursday, May 3, 1979, at 2:00 p.m.

D. E. WARD, JR., M.D., President
MARVIN N. LYMBERIS, M.D., Speaker
JACK HUGHES, M.D., Secretary
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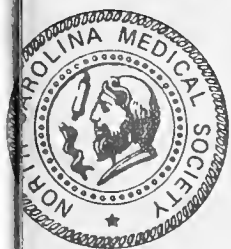
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PRESIDENT'S NEWSLETTER

NORTH CAROLINA MEDICAL SOCIETY

No. 8

January 1979

At the present time, there are still 281 physician members of the Medical Society who have not completed their Continuing Medical Education requirements to be reported by December 31, 1978. I feel that many of these members have met their requirements but have not taken time to report them. I hope that if you are one of these physicians you will mail your report in this month in order to be eligible for membership.

Congratulations to Mrs. Charles L. Nance, Wilmington, President of the New Hanover-Brunswick-Pender Counties Medical Auxiliary and to the local medical society on the opening on January 14, 1979, at the New Hanover County Museum, Wilmington, N.C., of the "Incredible You". This is quite a significant event for it is the first permanent health exhibit in eastern N. C. It will be an asset to the profession to have these exhibits in all areas of our State.

On a recommendation from the Committee on Legislation, the Executive Council approved a motion that the N. C. Dept. of Human Resources be requested to tighten the regulations on registration of lay midwives.

The Committee on Pharmacy recommended and the Executive Council unanimously approved a motion to express disapproval of blanket substitution authorization by physicians to pharmacists. However, pharmacist/physician consultation regarding choice of brands as a cost effective measure is encouraged.

The Committee on Disaster and Emergency Medical Care recommended and the Executive Council approved that the Society disapprove the widespread distribution of adrenalin for use in treating anaphylactic shock caused by insect bites because of the complexity of the problem and the dangers of administering adrenalin by non-medical personnel, and because of lack of knowledge of the size of the problem in the state.

Mary Ann Hampton Taylor, M.D., Winston-Salem, has been appointed by Governor James Hunt to the State School Health Advisory Committee. Howard E. Strawcutter, M.D., Lumberton has been appointed as a representative to the Statewide Professional Standards Review Council. George Podgorny, M.D., Winston-Salem, was recently installed as President of the American College of Emergency Physicians.

Congratulations to Mrs. Martha Martinat, Winston-Salem, Past President of the Medical Auxiliary, who was elected Chairman of the School Health Education Advisory Committee for the State of N. C. The Auxiliary has worked long and hard on this program; and with Martha's expertise and leadership, this committee will greatly improve the health education of the students in our school systems.

Our Society dues invoices have been mailed and are payable in January 1979. Don't forget to make your contribution to MEDPAC, at the same time, with a personal check. Your contribution to MEDPAC is vitally needed. Contributions made by the MEDPAC Board go to both Democrats and Republicans and insure medicine a strong voice both with the State Legislature and the Congress. Your contribution is critical to the success of our profession in presenting medicine's views to these legislators.

(Copies of N. C. MEDPAC and AMPAC reports are filed with the Federal Election Commission and are available for purchase from the Federal Election Commission, Washington, D. C.)

John Dees, M.D., Burgaw, is Chairman of our Legislative Committee, and has an active committee that will work hard in our behalf in this Legislature. We need your support, and we will be calling on some of you for liaison with the House and Senate members in your area.

During 1977 and 1978, AMPAC supported 415 candidates in the 1978 elections. Of this number 367 candidates ran for the U. S. House of Representatives and 48 were candidates for the U. S. Senate. Of the candidates supported, 74.7% won their races. Of the 415 AMPAC supported, 210 or 50.6% were Democrats and 205 or 49.4% were Republicans.

Three physicians will serve in the U. S. House of Representatives in the 96th Congress Congressman Ron Paul, Texas, Congressman Larry P. McDonald, Georgia, and Congressman Tim Lee Carter (R), Kentucky. Our profession needs more physicians in the N. C. Senate and House, and I hope that some of you will consider running in future election

Thomas B. Dameron, Jr., M.D., Raleigh, was installed as President of the Southern Medical Association at its recent meeting in Atlanta. The Southern Medical Association is comprised of 25,000 physicians from all 16 Southern states and the District of Columbia. Dr. Dameron has been an AMA Delegate from the Section on Orthopaedics for many years, and we wish him well during his year as President of the SMA.

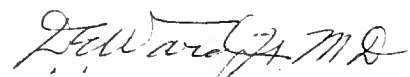
A Communication has been received from James Haugh, Director, Dept. of Surgical Practice, American College of Surgeons, stating: "The College has not taken a firm stand to forbid participation by Fellows on Second Surgical Opinion Program panels. The College has indicated that an individual surgeon may follow his own conscience about participating as a consultant in private or Federal Second Surgical Opinion programs."

The College has labeled the HEW nationwide second opinion effort which began September 11, 1978, as "ill-advised and premature" since it was implemented before the efficacy of the HEW demonstration projects in New York, Michigan, and Massachusetts were evaluated.

The College has objected to the mandatory nature of The Prudential Company's second opinion program, which includes a second option reducing the surgical benefit payment if the patient failed to seek a second opinion or went ahead with an elective operation despite a negative second opinion. This would in essence require the patient to adopt the cheaper of the two alternative opinions irrespective of whether the second opinion is more reliable than the initial recommendation. This is an inappropriate role for the insurance company, moving it from the status of paymaster into the position of selecting that therapy which is presumably cheaper.

I encourage each of you to attend the 1979 Conference for Present and Future Medical Leaders, February 2-3, 1979, at the Sheraton-Crabtree Motor Inn in Raleigh. John McCain, M.D., Wilson, Chairman, and the Committee on Communications have arranged an excellent program.

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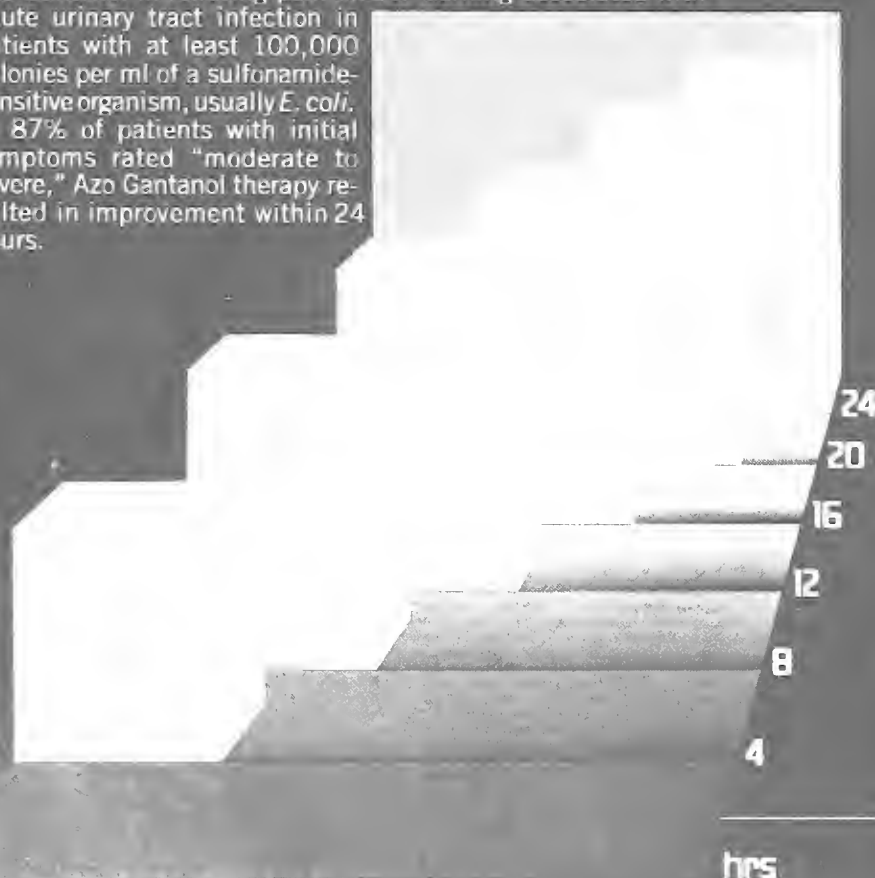
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Indications: In adults, urinary tract infections complicated by pain (primarily pyelonephritis, cystitis and prostatitis) due to susceptible organisms (usually *E. coli*, *Klebsiella-Aerobacter*, *Staphylococcus aureus*, *Proteus mirabilis*, and, less frequently, *Proteus vulgaris*) in the absence of obstructive uropathy or foreign bodies. Not fully coordinate *in vitro* sulfonamide sensitivity tests with bacteriologic and clinical response; aminobenzoic acid to follow-up culture may increase frequency of resistant organisms; the usefulness of antibacterials including sulfonamides. Measure sulfonamide blood levels; variations may occur; 20 mg/100 ml should be maximum total level.

Contraindications: Children below age 12; sulfonamide hypersensitivity; pregnancy at term during nursing period; because Azo Gantanol contains phenazopyridine hydrochloride it is contraindicated in glomerulonephritis, severe hepatic uremia, and pyelonephritis of pregnancy with disturbances.

Warnings: Safety during pregnancy not established. Deaths from hypersensitivity reactions, neutropenia, aplastic anemia and other blood dyscrasias have been reported and early clinical signs (fever, pallor, purpura or jaundice) indicate serious blood disorders. Frequent urinalysis with microscopic examination is recommended during sulfonamide therapy.

Precautions: Use cautiously in patients with impaired renal or hepatic function, severe bronchial asthma; in glucose-6-phosphate dehydrogenase-deficient individuals in whom dose-related hemolysis may occur. Maintain adequate fluid intake to prevent crystalluria and stone formation.

Adverse Reactions: Blood dyscrasias (agranulocytosis, aplastic anemia, thrombocytopenia, hemolytic anemia, purpura, thrombinemia and methemoglobinemia); reactions (erythema multiforme, skin eruptions, Stevens-Johnson syndrome, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, sensitization, arthralgia and allergic myalgia); G.I. reactions (nausea, emesis, abdominal pain, hepatitis, diarrhea, anorexia, pancreatitis, stomatitis); CNS reactions (headache, vertigo, dizziness, mental depression, convulsions, hallucinations, tinnitus, vertigo and insomnia); miscellaneous reactions (drug fever, chills, nephritis with oliguria and anuria, pericarditis and L. E. phenomenon). Due to chemical similarities with some goitrogenic agents (acetazolamide, thiazides) and hypoglycemic agents, sulfonamides have caused instances of goiter production, diuresis and hypoglycemia. Cross-sensitivity with these agents may exist.

Dosage: Azo Gantanol is intended for the painful phase of urinary tract infections. **Adult dosage:** 2 Gm (4 tabs) initially, then (2 tabs) B.I.D. for up to 3 days. If pain causes other than infection should be considered. After relief of pain has been obtained, treatment with Gantanol (sulfamethoxazole) should be considered.

NOTE: Patients should be told that the dye (phenazopyridine HCl) will color the urine. **Supplied:** Tablets, red, film-coated, each containing 0.5 Gm sulfamethoxazole and 100 mg phenazopyridine HCl—bottles of 100.

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CURRENT CONCEPTS

Radiation Therapy in Neoplastic Disease

Carolyn Ferree, M.D.

INTRODUCTION

RADIATION therapy, the use of radiation in the treatment of malignant disease, touches nearly every medical and surgical specialty, age group and organ system. Approximately 70% of all patients with cancer will be evaluated at one time during the course of their disease for radiation therapy.

The ideal result of irradiation treatment is eradication of the tumor without damage to the surrounding normal tissue. Unfortunately, this goal is rarely achieved and damage to some normal tissue must be accepted if the tumor is to be destroyed. Two primary factors limit radiation treatment: (1) the difference in the radiosensitivity of neoplastic and normal cells; and (2) the difference in intracellular repair capacity of the neoplastic and normal cell, the latter cells having a faster rate of recovery. Since this therapeutic ratio is frequently near unity, research in radiation oncology has been aimed at improving selectivity for destruction of tumor tissue relative to normal tissue.

A better understanding of

radiobiology has led to new concepts regarding the response of normal tissues and tumors and these concepts have reduced the number and severity of sequelae from irradiation during the past two decades.

GENERAL USES

Radiation therapy for malignancy can be curative, prophylactic or palliative. It can be used in combination with other modalities, such as surgery (preoperative or postoperative) or chemotherapy. The time required for a course of irradiation depends on the total dose, the type of tumor, the volume required to encompass the tumor and its nodal drainage, the tolerance of normal tissue surrounding the tumor, and the reason for treatment, i.e., cure or palliation. In most palliative treatment, two weeks of moderately high dose therapy is adequate. For curative attempts, however, treatment usually continues from six to eight weeks on a five day/week schedule.

CURE

Curative irradiation is the goal in approximately 50% of patients. Advances in radiotherapy equipment have made it possible to deliver higher doses to any depth of the body, to treat large volumes, to de-

crease scatter to surrounding normal tissue, and to better define the volume of tumor (see table).¹ Despite these improvements, tumors most amenable to cure are those which are discovered early, metastasize late, are considerably more radiosensitive than their surrounding tissue (if a large target volume), or require small treatment volumes. Also, tumors amenable to intense, small target volume ("boost") therapy by intracavitary sources or interstitial needles are curable in many cases.

HEAD AND NECK

In patients with head and neck cancer, the quality of survival is extremely important. The treatment as well as the malignancy can be deforming and debilitating, and therapy for each patient must be individualized with regard to age, nutritional status, status of teeth repair, drinking and smoking habits, the abilities of the surgeon and radiotherapist, extent of the primary disease and lymph node involvement. A multidisciplinary approach is necessary for optimum management and may involve otolaryngologists, plastic surgeons, dental surgeons, radiation oncologists and medical oncologists.

Based on biological variations

From the Cancer Center and the Division of Radiation Therapy, Department of Radiology, Bowman Gray School of Medicine, Winston-Salem, N.C. 27103

**Table.
Improved Survival
With Megavoltage Radiation***

Cancer Type	1955 Kilovoltage (%)	1970 Megavoltage (%)
Retinoblastoma	30 - 40	80 - 85
Testis, seminoma	65 - 70	90 - 95
Hodgkin's disease	30 - 35	70 - 75
Cervix	35 - 45	55 - 65
Prostate	5 - 15	55 - 60
Nasopharynx	20 - 25	45 - 50
Bladder	0 - 5	25 - 35
Ovary	15 - 20	50 - 60
Testis, embryonal	20 - 25	55 - 70
Tonsil	25 - 30	40 - 50

*From "Conquest of Cancer," 1970 Report of the National Panel of Consultants of the Committee on Labor and Public Welfare of the U.S. Senate, p. 51

and anatomical factors, especially in regards to lymphatic drainage, cancer of the head and neck is categorized for treatment and prognostic purposes.

Oral cavity: The submucosa contains relatively few lymphatics; hence early cancers of this region can be treated equally well by surgery or radiation therapy with over-all cure rates for Stage I and II disease being 70%-90%. Stages I and II refer to disease 4 cm or less in diameter with no extension into surrounding tissues.

Oropharynx: These tumors are usually less differentiated than those of the oral cavity, have more abundant lymphatics and are more often treated solely with irradiation. Again, stage is most important in prognosis with over-all cure rates dropping from 50%-60% (with negative nodes) to 25% if nodes are positive.

Hypopharynx: These tumors of the pyriform sinuses, the post-cricoid region and the lower posterior pharyngeal wall usually present late, are commonly treated with surgery and irradiation, and have a poor prognosis: 23%-30% if regional nodes are negative for tumor and only 5%-10% if positive.

Larynx: For small tumors of the supraglottic region irradiation may be as good as supraglottic laryngectomy; however, larger le-

sions are usually treated with irradiation and then surgery. For tumor confined to the vocal cords with good mobility, radiation is usually curative and thus the treatment of choice. The main advantage of radiation therapy for carcinoma of the vocal cord is obvious; speech is maintained and the voice is usually of good quality. The volume of radiation is small because lymphatics are sparse; hence, if radiation therapy fails, a laryngectomy can still be performed with good results. The cure rate for early glottic lesions is approximately 90%.

Skin: Basal cell and squamous cell carcinomas about the face are highly curable (90%-95%) with surgery or radiation therapy, especially if small, with essentially no loss of cosmesis. Radiation therapy is most frequently employed following surgical excision where tumor is seen in the margins of the pathologic specimen, following a local recurrence, and for most lesions presenting on the eyelids or nose.

HODGKIN'S DISEASE

Hodgkin's disease is a favorite topic for any radiotherapist because of the dramatic improvement in cure rates with the advent of new radiotherapy techniques and equipment during the past 20 years. The orderly progression of disease

by contiguity has been a basis for large field treatment techniques. Also, lymphangiography and staging laparotomy have led to better delineation of disease. Staging laparotomy includes splenectomy, liver biopsy (both needle and wedge), and specific sampling of para-aortic nodes. If the lymphangiogram reveals suspicious nodes, these should be removed at surgery if possible and the removal documented by radiography in the operating room. This staging information integrated with prognostic factors such as histology, sex, age, and symptomatology has led to aggressive radiation therapy with 95% five-year survival rates for Stage I patients, 70%-75% for Stage II, 50% for Stage III and 20% for Stage IV.

Aggressive radiation therapy is total nodal irradiation with minor variations for everything but Stage III-B and IV disease. Total nodal irradiation includes both mantle and inverted Y radiotherapy. The mantle portal covers nodal chains in the neck, axillae, mediastinum, and pulmonary hilar areas. The inverted Y covers the para-aortic nodes, the iliac, and inguinal nodes (including the spleen if it has not been removed). (Figure 1.)

Although survival rates are good, there continues to be a significant relapse rate requiring special treatment. There is no evidence that relapse results in a decreased survival rate; however, for obvious reasons it would be preferable to cure the patient during the first phase of treatment. With the addition of combination chemotherapy for high-risk patients, it is probable that many of these relapses may be prevented. High-risk patients are those with symptoms, males, mixed cellularity and lymphocyte depleted histology, and especially Stage I patients with disease below the celiac axis. Indeed, cure rates have improved in Hodgkin's disease to the point that second malignancies, sterility and other long term side effects have become the major concerns.

CERVIX

Radiation therapy is the treatment of choice for the majority

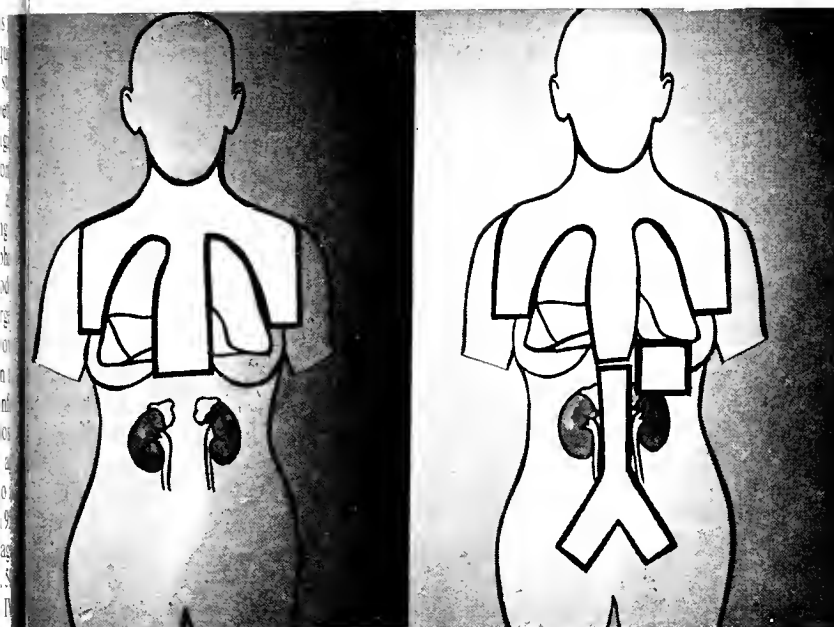


Fig. 1. (a) Mantle field (b) Mantle and Inverted-Y fields (Total nodal).

patients with carcinoma of the cervix in most institutions. Surgery can be employed in selected Stage I cases, especially among younger women, with comparable cure rates (8%-90%); however, morbidity and mortality due to extensive surgery are in the 7%-15% range. In Stage I disease with barrel-shaped lower uterine segments, treatment is usually preoperative irradiation and intra-fascial hysterectomy. For Stage I (confinement of disease to cervix) and Stage II (upper vaginal parametrial involvement), the major component of irradiation is intracavitary with external beam therapy being used to sterilize pelvic nodes. For Stage III lesions (extension to pelvic sidewalls and/or involvement of lower third of vagina), external beam irradiation is usually required for the majority of the total dose, with perhaps a minor intracavitary contribution ("boost"). Inability to use intracavitary radiation as the major component of treatment and the high incidence of metastatic nodes (50%-60%) leads to poor survival rates (30%-40%) in Stage III patients. The treatment for Stage IV disease depends on why it is classified Stage IV. If the bladder is involved, preoperative irradiation and anterior exenteration is frequently the treatment of choice.

Cure rates appear better than those for Stage III and IV lesions without bladder involvement but series are small. If the disease is Stage IV by virtue of metastasis, irradiation is limited to palliation.

CENTRAL NERVOUS SYSTEM

Postbiopsy irradiation is almost always indicated for intracranial tumors. Brain tumors are second only to leukemia in frequency of childhood cancer and most respond to aggressive radiation therapy; the cure rate in medulloblastoma approaching 50%. In adults, glioblastoma continues to kill all its victims. The Brain Tumor Study Group (M. Walker et al, *Journal of Neurosurgery*, in press) has shown clearly that radiation therapy is the single most important factor in improving survival; however, results are measured in months and radiation therapy for these tumors can be considered only "palliative" despite the high dose required. In Grade III astrocytomas and other moderately malignant tumors, the five-year survivals approach 20%-25%.

SEMINOMA

This relatively rare malignancy is curable in almost every case, despite the stage. In addition to its predictable pattern of spread (as in

Hodgkin's disease), it is highly radiosensitive; hence, moderate doses of radiation are adequate and can be given without significant side effects.

PROSTATE

The availability of megavoltage radiotherapy and the 5% resectability rate for carcinoma of the prostate have resulted in increasing use of external radiotherapy for cure of Stage B (limited to capsule) and C (extension through capsule) disease. Results are difficult to assess precisely because of the natural history of this cancer, adjunctive treatment (orchiectomy and/or hormonal therapy), and the inability to accurately stage many of these patients. It seems, however, that results of radiotherapy are at least as good as surgery with the advantage of maintaining sexual potency in most patients.³

PROPHYLACTIC

Prophylactic cranial irradiation in acute lymphocytic leukemia and oat cell carcinoma may be quite beneficial because systemic chemotherapeutic agents cannot adequately penetrate the central nervous system and malignant cells there, if not attacked, may result in overt disease. For oat cell carcinoma, most brain metastases (which occur in approximately 50% of cases) can apparently be prevented with cranial irradiation.⁴ With the combination of cranial irradiation and intrathecal administration of methotrexate in acute lymphocytic leukemia, children are now being "cured" with the over-all five-year survival approximately 50%.

COMBINED TREATMENT

Since neither radical surgery nor radiation therapy alone has produced significant improvement in survivals of patients with most solid tumors, many clinical trials combining these modalities have been carried out. Theoretically, radiation therapy should control peripheral disease and surgery should control the large, central tumor. When used together, however, each treatment has to be something less than radical.

The rationale for preoperative ir-

radiation follows: (1) sterilization of tumor cells at the periphery of the surgical field, (2) sterilization of nodal metastases outside surgical field, (3) decreased dissemination of tumor during surgery, (4) increased resectability, and supposedly, (5) decreased viable cells in the surgical field, thereby decreasing possibility of tumor implantation.

Radiobiologically, preoperative irradiation seems more rational because surgery may compromise and reduce vascularity and oxygenation, both of which are essential to radiosensitivity. In practice, however, postoperative irradiation is more frequently used; unfortunately, it is usually employed in poor risk patients and clinical trials have not yet determined whether radiation therapy is as beneficial postoperatively as preoperatively. The rationale for postoperative radiation therapy includes: (1) eradication of gross tumor foci left in the surgical field, of known residual disease and of microscopic nodal disease not removed surgically, and (2) the delivery of higher, "tailor-made" doses to sites with highest risk for recurrence or metastases.

Many tumors lend themselves to combined treatment with improved survival, improved local control, or both.

Breast carcinoma: The controversy regarding the best mode of treatment continues; however, it is generally accepted that postoperative irradiation in advanced breast carcinoma can decrease local recurrence from a high of 25%-35% to approximately 5% in most series. Although radiation therapy has done nothing to improve survival, it has yet to be shown that systemic treatment can replace localized irradiation in preventing local recurrence. Theoretically, if chemotherapy can eradicate distant micrometastasis it should also be able to eliminate regional nodal metastasis and cells left in surgical fields.

Head and neck: Randomized trials using preoperative irradiation have demonstrated decreased recurrence in the neck following definitive surgery. Postoperative radiation therapy may accomplish the

same results, but data are less concrete. Combined treatment is most appropriate for some Stage II and most Stage III tumors which lend themselves to surgery.

Bladder: There is considerable evidence that irradiation can improve survival rates in Stage B₂ and C tumors of the bladder. A recent randomized prospective study demonstrated a 46% five-year survival with combined therapy (preoperative irradiation to 5000 rads followed by cystectomy) versus 16% for irradiation alone.⁵

Rectum: The most extensive studies of preoperative irradiation for colorectal carcinoma are from Memorial Hospital⁶ and from the Veterans Administration Surgical Adjuvant Group whose prospective randomized trials of preoperative irradiation and surgery versus surgery only for colorectal carcinoma^{7,8} showed statistically significant improvement in five-year survival rates from 27% to 40% which correlated with the reduction of positive nodes found in the irradiated group (27%) compared to the controls (40%). Unfortunately, most surgeons still prefer operation alone to relatively lengthy preoperative irradiation followed by a 4-6 week wait. Thus, current trials address themselves to whether postoperative irradiation can do as well.

Testicle: Seminoma is treated by orchiectomy followed by definitive radiation therapy to the nodal drainage sites. However, other testicular malignancies have historically been treated by orchiectomy, retroperitoneal node dissection for removal of gross disease, and postoperative irradiation for eradication of microscopic nodal disease. At best, a nodal dissection can be called a staging procedure since no more than 75% of the nodes can be removed by the most meticulous surgeon.⁹ It is generally accepted that the survival in these tumors has increased from about 30%-40% overall to 75% with the advent of supervoltage treatment of nodal metastasis.¹⁰ The addition of chemotherapy may result in improved survival since distant metastasis is

the major cause of death of these patients.

GYNECOLOGY

Endometrium: Although surgery is the treatment of choice for endometrial carcinoma, adenocarcinoma persists in the upper vagina in approximately 15% of cases after surgery; this can be reduced to 1%-4% with preoperative or postoperative irradiation. Although most institutions still employ preoperative treatment, prognostic information such as depth of uterine wall infiltration cannot be determined preoperatively. Hence, we await operative findings. If there are pelvic nodes (approximately 20% incidence) or if there is myometrial invasion, postoperative external and intracavitary radiation ("boost") is recommended. Five year survival approaches 70% being approximately 90% in Stage I.

Ovary: The role of radiation therapy in carcinoma of the ovary remains controversial. Postoperative pelvic irradiation for Stage I lesions may be beneficial; however, for each series indicating improvement in survival, there is another reporting no improvement. Currently, we use postoperative radiation therapy for Stage II as morbidity is low and the probability of residual disease is fairly high.

CHILDHOOD MALIGNANCY

In no other group of diseases combined treatment as common as successful as in childhood malignancies. Ewing's sarcoma, Wilms tumors, neuroblastoma and rhabdomyosarcoma are responsive to combination of surgery, radiation therapy, and chemotherapy (surgery is usually limited to biopsy of Ewing's sarcoma). With the exception of neuroblastoma, survival in these diseases has improved significantly, particularly since the addition of chemotherapy (Figure 2).

NON-HODGKIN'S LYMPHOMA

Patients with these diseases have been subjected to a variety of treatments because of uncertainty about the underlying process and lack of consistent results with a given regimen. Currently radiation

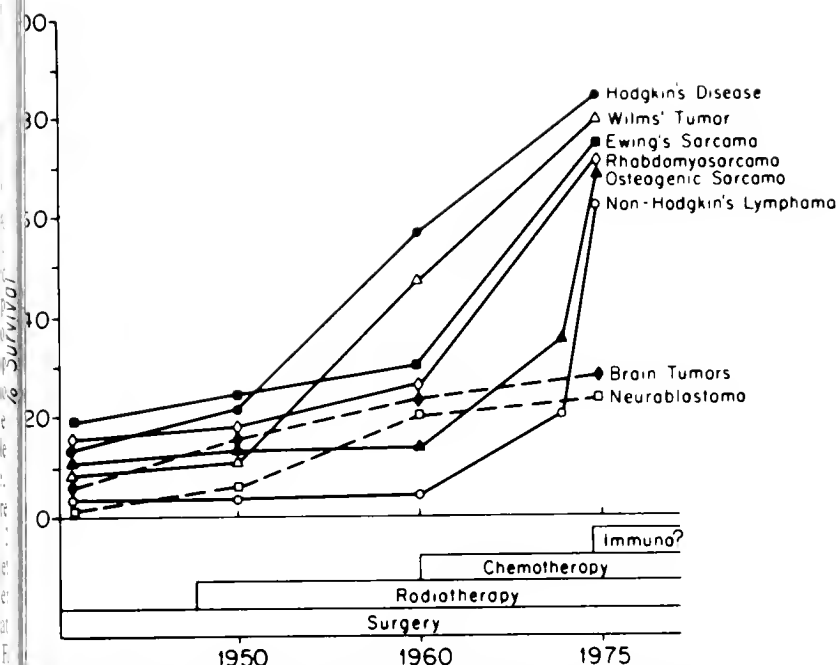


Fig. 2. Over-all improvement in two-year survival in childhood solid tumors over the last decade. (Reprinted from Cancer, Vol. 41,

p 31, Jan., 1978, by permission of Dr. Denman Hammond and the American Cancer Society.)

may be used for treatment of the nodular lymphomas, but it should be limited to localized irradiation followed by chemotherapy in most other non-Hodgkin's lymphomas, especially the diffuse histiocytic type.¹²

PALLIATION

Carcinomas of the lung can perhaps be discussed best under palliation, since the results of all treatment for this disease are so final. Of 100 patients who present with carcinoma of the lung, only 10% will be operable and of those 10%, only 25% will be resectable. Only 5%-10% will survive.

Radiation therapy plays a major role in carcinoma of the lung: it can be used as definitive treatment in patients with small "resectable" lesions who are not candidates for surgery, it can be combined with surgery in an effort to eradicate microscopic residual or nodal disease, and it can offer palliation of symptoms secondary to metastases.

Palliative irradiation can be delivered rapidly with little morbidity, in most cases, for (1) relief of pain

from bony metastasis or from nerve invasion, i.e., brachial plexus or sciatic plexus invasion secondary to locally recurrent tumors, (2) relief of obstructive symptoms (bronchus, ureter, esophagus, superior vena cava, and lower G.I. tract), (3) relief of symptoms caused by brain and extradural metastases, (4) relief of bleeding from tumor and (5) relief of cough secondary to tumor. Obstruction of the superior vena cava, which results when the tumor wraps itself around the vena cava by extension from the mediastinum, constitutes one of the true emergencies in radiation therapy. The first three days of irradiation consist of large daily fractions: in almost every case, marked improvement in edema, venous congestion, and dyspnea occurs within 48 hours. Lack of response, in our experience, has been associated with thrombosis of the vena cava and rapid deterioration.¹³

In accepting a patient for palliative therapy it is essential to have a reasonable expectation of success in relieving symptoms, considering the emotional, physical and financial cost to the patient.

COMPLICATIONS

Expected side effects, acute and long-term, are limited to the area being treated. With proper fractionation of doses and supervoltage equipment, skin changes are usually few: dryness, erythema, and rarely moist desquamation. Alopecia occurs temporarily with doses of approximately 4500 rads and permanently above that level. Diarrhea, a common acute side effect of whole abdomen or pelvic irradiation, can usually be controlled with medication and rarely requires interruption of treatment.

Acute mucositis is a significant problem with head and neck irradiation and requires vigorous nutritional support. Associated with the mucositis is damage of the salivary glands resulting in thick saliva. Dryness of the mouth improves slightly but is a very uncomfortable long-term effect. Dental caries, a significant long-term sequel of salivary changes, are best prevented by careful fluoride applications and good oral hygiene.

Radiation proctitis occurs in 5%-10% of patients treated with intracavitary sources for carcinoma of the cervix but rarely with external irradiation only. It is usually transient and responds to steroid enemas.

Progressive radiation myelitis is uncommon, the risk increasing as the length of the cord treated increases, as the daily fraction increases, and as the total dose increases. A transient form is reversible and characterized by an "electric shock" radiating into the limbs with flexion of the neck (Lhermitte's sign).

Bone marrow suppression, which depends on the total dose of radiation and the volume of bone marrow treated, becomes a significant complication only in total nodal irradiation and then usually only if combined with chemotherapy.

True radiation pneumonitis is clinically uncommon but patients who have received irradiation for intrathoracic tumors often exhibit radiographic changes which may be difficult to differentiate from recurrence. Symptomatic acute pneumonitis will usually respond to

high dose adrenal steroids, but once fibrosis is established (six months), drug therapy is of no benefit.

PSYCHOLOGICAL ASPECTS¹⁴

The radiation oncologist must provide emotional support for the patient since cancer provokes much fear and anxiety. Despite advances in radiation therapy in the past two decades, there are still many misconceptions about it; this, and the inherently mechanical environment in which radiation therapy is given magnifies the fear and emotional stress of the patient. A radiation oncologist can allay many of these apprehensions by explaining procedures carefully and clearly, pointing out what side effects to expect or not to expect, outlining the rationale for treatment, and defining expected results. In essence, a

radiotherapist can ease many of these fears simply by listening and can allay many of them by taking the time to familiarize the patient with "radiation therapy." By so doing the therapist proves that the best care is caring for the patients.

SUMMARY

Radiation therapy is a local treatment which can be curative in some malignancies and palliative for many who suffer from metastatic disease. It will probably become even more important as a tool to decrease the viable tumor load as systemic drugs and immunotherapy become more effective in controlling malignancies characterized by disseminated subclinical disease.

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Have you not reason then to bee ashamed, and to forbear this filthie noveltie, so basely grounded, so foolishly received and so grossely mistaken in the right use thereof? In your abuse thereof sinning against God, harming yourselves both in persons and goods, and taking also thereby the markes and notes of vanitie upon you: by the custome thereof making your selves to be wondered at by all forraine civil Nations, and by all strangers that come among you, to be scorned and contemned. A custome lothsome to the eye, hateful to the Nose, harmefull to the braine, dangerous to the lungs, and the blacke stinking fume thereof, neereest resembling the horrible Stigian smoke of the pit that is bottomlesse. — *A Counter-Blaste to Tobacco*, King James I, 1604.

Pseudoembolization of the Femoral Artery

Francis Robicsek, M.D.

ABSTRACT Several distinct clinical syndromes mimic embolization of the femoral artery. Awareness of these syndromes and thorough examination can prevent a misdiagnosis that leads either to unnecessary surgery or to an ill-conceived and ineffective operative plan.

ARTERIAL embolization to the lower extremity can usually be diagnosed with fair accuracy by the history and physical examination alone. The typical clinical case is an elderly individual with either chronic atrial fibrillation or recent myocardial infarction who suddenly develops pain, numbness and often loss of sensory and motor function of the lower extremity. On physical examination, the involved limb is initially pale, later livid; the veins are empty, the skin feels cold and the arterial pulses are absent below the level of occlusion.

The ease of the surgical treatment usually matches the simplicity of the diagnosis. Because the introduction of the Fogarty catheter into vascular surgical practice eliminated the necessity of either pinpoint localization or wide exposure, the surgeon usually chooses to ex-

plore the femoral bifurcation under local anesthesia and plans to extract the embolus with the aid of the Fogarty catheter either from above or below.

While the above plan of action is satisfactory for most patients with suspected arterial emboli, for some cases it is not. Distinct clinical entities occasionally closely mimic embolization to the lower extremity and, if they are present, a misdiagnosis can easily lead either to unnecessary surgery or to an ill-conceived and therefore ineffective operative plan.

Of these syndromes, *ilio-femoral venous thrombosis*, should be mentioned first. In the typical case of this disease, in contrast to arterial embolization, the symptomatology develops gradually within several hours or days. The extremity remains warm, the veins full and the arterial pulses present. The extremity is livid at the beginning and only later, when edema develops, will turn pale. There is, however, a hyperacute form of the disease which during the very early stage could indeed resemble arterial embolization. In such cases, massive thrombosis occurs suddenly and is accompanied by such a severe arterial spasm that signs of arterial insufficiency overshadow the symptoms of venous occlusion. The extremity is cold instead of warm, pale instead of livid, and the arterial

pulses are faint, even absent. In such patients, the absence of collapsed veins and preserved sensory and motor activity could be useful in establishing the proper diagnosis. These patients are also often women of childbearing age with histories of phlebitis but not of heart disease. If doubt persists, arteriography will reveal a contracted but unobstructed arterial tree. The condition is best handled by intra-arterial injection of vasodilators, sympathetic blockade and intravenous heparinization. Naturally symptoms of arterial insufficiency may also occur late in the course of massive ilio-femoral venous thrombosis when severe edema may impair the arterial blood flow. These cases, however, rarely create a diagnostic challenge.

Another condition which often imitates arterial embolization is *thrombosis of a popliteal aneurysm*. The situation can be confusing indeed because aneurysms of the popliteal artery often embolize downward before they, themselves, become occluded with clots. The clinical picture of this disease is similar to sudden arterial occlusion caused by emboli: discoloration, coolness, pain, often numbness and motor paralysis. A number of patients with this disease have been misdiagnosed even by experienced surgeons, taken to the operating room and have had their common

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Charlotte, N.C. 28207

femoral artery exposed in the groin under local anesthesia. The exploring Fogarty catheter may even pass down through the aneurysm, permitting withdrawal of clots from the aneurysm itself; naturally, pedal pulses and viability of the lower calf and foot will not be restored. We have seen such patients who have undergone multiple transfemoral Fogarty "embolectomies" until someone has explored and grafted the popliteal artery.

Differential diagnostic signs for popliteal aneurysm thrombosis are not always present, but if they are, they could be very useful. Naturally, if the patient was known to have a popliteal aneurysm, disappearance of the popliteal pulse and development of acute ischemia is diagnostic. Similarly, a carefully performed physical examination sometimes reveals the diagnosis; if the thrombosis of the aneurysm does not propagate above the level of the Hunter canal, the examiner can feel a feebly pulsating tender mass. Because popliteal aneurysms are often bilateral (in our experience in 12 of 19 patients), the diagnosis could be suspected if the examiner finds a vigorously pulsating mass in the contralateral popliteal fossa. The arteriogram can also be very helpful. While in popliteal embolization the contrast injection usually shows an artery of normal lumen which abruptly terminates in a concave, maniscus-shaped line at the level of the popliteal bifurcation, the thrombosed popliteal aneurysm causes an obstruction beginning at the entrance of the popliteal fossa. The line of termination is also straight rather than concave and the terminal portion of the open vessel is irregular and often shows slight funnel-like dilation corresponding to the "neck" of the aneurysm. The surgical treatment of thrombosed popliteal aneurysm, opposed to femoral embolization, is wide exposure and replacement of the popliteal artery.

Another condition which may deceive the unsuspecting is *arterial insufficiency of the lower extremities caused by generalized circulatory failure*. These patients suffer from both protracted cardiac disease and

chronic occlusive arteriosclerosis of the legs. Because of their heart disease, however, they usually don't move around much; therefore, their femoral occlusive arterial disease may not receive much attention and, if they are not under proper medical supervision, may remain undetected. Such an individual may develop general circulatory decompensation, the symptoms of which will be most pronounced on one or both legs where circulation was marginal even before general cardiac failure. In other words, these patients may appear in the emergency room with symptoms of both heart failure and severe ischemia of the limb. Many of these patients have been thought to have peripheral embolization, rushed to the operating room and had their arteries exposed. The Fogarty catheter usually encounters resistance in the mid-portion of the superficial femoral artery without disclosing any emboli. It is also noteworthy that the surgical mortality in such patients is very high, approaching 50%.

These patients should not be operated upon. Careful history-taking is mandatory and will usually reveal symptoms of both heart disease and chronic occlusive arterial disease. The patient will also admit to long-existing intermittent claudication and that his fatigue, shortness of breath, etc., began *before* his leg got worse. The development of the symptoms of ischemia is also not as sudden and severe as with embolization. Typically these patients are dyspneic, lie with the upper part of their bodies elevated; lips are slightly cyanotic, the liver may be palpated, the lungs are congested. Moderate ankle edema is not infrequent. The heart rate is usually elevated and pedal pulsations will be poor or absent. The lower extremities are cyanotic and cool, but both feeling and motion are usually preserved. Arteriography will reveal diffuse arteriosclerotic disease, usually with more than one area of occlusion and poorly developed collaterals.

The treatment of the condition is medical. Rapid digitalization and diuretics will do "wonders," and

the circulation of the legs will rapidly improve with the general improvement of the patient's cardiac status.

The last condition to be considered is acute thrombosis of the femoral and/or popliteal artery. There are two forms of this disease — one arteriosclerotic, the other in seemingly healthy arteries.

Arteriosclerotic thrombosis is the easier to recognize. Most patients have a long history of claudication and often also experience pain at rest. Their relatively stable circulatory deficiency, however, may take an acute turn for the worse when a critical stricture closes off completely or an important collateral becomes occluded and proximal and sometimes distal thrombosis in the main arterial channel develops. These patients are usually old and often neglected; thus the gradual worsening of their arterial insufficiency has neither been followed nor documented by their physician. They are often heavy smokers. Their involved extremity shows trophic changes typical of chronic arterial insufficiency. Its color is always cyanotic, never pale as is in the first phase of "true" arterial embolization. Motor paralysis is rare at the beginning but it may develop gradually. The pulses of the contralateral extremity are usually weak or absent. Arteriography will reveal diffuse, severe occlusive arteriosclerosis with extensive occlusion of the principal vessel.

If such a patient is misdiagnosed as having arterial embolization and has his common femoral artery explored, the Fogarty catheter indeed will retract thrombi, often in large amounts, further confusing the situation. The poor prognosis, however, will be rapidly evident by the absence of the firm, organized whitish clot typical of the embolus, the generalized arteriosclerotic appearance of the vessel exposed, the inability of the surgeon to pass the catheter below the level of the obstruction and the lack of adequate back bleeding. The prognosis of this disease is very poor and only a immediate, skillfully performed combination of bypass and throm-

ecomy offers any chance for limb survival.

Acute thrombosis of a non-arteriosclerotic artery is a relatively rare condition which the vascular surgeon encounters several times during his career. These patients are usually young women who enter the hospital with acute pain in a foot and leave the institute several weeks later with one, sometimes both legs amputated. The history is seldom revealing, although in some cases hypertension or other forms of peripheral neuropathy can be demonstrated. In a majority but not all are smokers and a number of them are taking oral control pills.

The beginning of the disease is usually abrupt. The patient appears in the emergency room with a very painful leg, with the pain curiously increasing worse in the calf than in the foot. The extremity is initially pale, then reddish-cyanotic, but turns black only in the very late stage. Because of youth and intact collateral circulation frank gangrene develops late, usually after multiple unsuccessful surgical procedures. Arteriography usually demonstrate an arterial system which usually is diffusely narrow and shows no arteriosclerotic changes. At the site of the occlusion, the clot may have a "rat tail"-like appearance rather than a meniscus-shaped "cut off" typical for an embolus coming from a distant site.

Blood flow to the ischemic area cannot be restored by remote arteriogram manipulation in these patients. The only hope of cure lies in exploring the involved vessel and either cleaning it out through a small arteriotomy or bypassing it.

Unfortunately, these arteries are difficult to handle because they are generally small in caliber, the walls show inflammatory changes and the thrombus is adherent. Concomitant sympathectomy is sometimes beneficial and intravenous postoperative heparinization is mandatory. In spite of all these measures, the surgeon and the patient seldom come out as "winners" even if everything is done properly at the proper times. Naturally, if the case was misdiagnosed as an arterial embolus and handled as such, the prognosis is dismal.

CONCLUSIONS

Non-traumatic acute arterial insufficiency of the lower extremities is caused by embolization in most patients, but not in all patients. Distinct clinical syndromes can also induce symptoms of sudden arterial occlusion and thus mimic the effect of an embolus originating from a distant site. While the surgical approach of limited exposure of the femoral artery and Fogarty embolectomy will yield satisfactory results in most cases of emboli if it is done soon enough and well enough, it will uniformly fail if the arterial occlusion is of different etiology. Such a mishap can be avoided only if the operator considers the possibility of these syndromes and formulates his surgical plan accordingly. This should be done by the following measures:

A) Patients with acutely ischemic legs who are in frank heart failure should not be rushed to the operating room but should be treated rapidly and energetically with digitalis, diuretics, intravenous hepa-

rin and other pharmacological means before surgery is undertaken.

B) Appropriate history taking is mandatory even in a seemingly "simple and clear-cut" arterial embolization. Careful questioning of the patient may reveal that some degree of circulatory deficit may have existed before the acute episode. This naturally does not exclude the presence of emboli, but it does call attention to other causes which may be responsible for or contribute to the ischemia.

C) While there is a great similarity in the symptoms and signs of acute arterial insufficiency triggered by a number of different conditions, a thorough examiner can discover clues which suggest that he is dealing not with simple embolization but with a more unusual situation which calls for unusual measures.

D) Angiography is not mandatory in all cases of acute arterial insufficiency, but it can be useful in most. While the arteriogram alone can seldom be called absolutely pathognomonic for arterial embolization of the leg, other clinical information already available may be helpful in arriving at a proper diagnostic and topographic conclusion.

E) If any doubt remains in the surgeon's mind that he is dealing with anything but the usual embolic occlusion at the bifurcation of the common femoral artery, his preparation of the patient for surgery, his instrumentation, the positioning and draping of the patient should allow him to extend his exposure either upward and downward or choose alternative methods of surgical revascularization.

And as for the vanities committed in this filthy custome, is it not both great vanitie and uncleannesse, that at the table, a place of respect, of cleanliness, of modestie, men should not be ashamed, to sit tossing of *Tobacco pipes*, and puffing of the smoke of *Tobacco* one to another, making the filthy smoke and stinke thereof, to exhale athwart the dishes, and infect the aire, when very often, men that abhorre it are at their repast? Surely Smoke becomes a kitchen far better than a Dining chamber. . . . — *A Counter-Blaste to Tobacco*, King James I, 1604.

Editorials

SUGGESTIONS FOR AUTHORS

The NORTH CAROLINA MEDICAL JOURNAL welcomes the contribution of original articles — scientific, historic and editorial — provided that they have neither been published previously nor have they been simultaneously submitted for publication in other medical periodicals. Papers concerned with all aspects of the practice of medicine in North Carolina are particularly solicited.

In addition, in view of "The Copyright Revision Act of 1976," effective Jan. 1, 1978, letters of transmission to the editor should contain the following language: "In consideration of the North Carolina Medical Society's taking action in reviewing and editing my submission, the author(s) undersigned hereby transfers, assigns, or otherwise conveys all copyright ownership to the North Carolina Medical Society in the event that such work is published in the NORTH CAROLINA MEDICAL JOURNAL." We regret that transmittal letters not containing the foregoing language signed by ALL authors of the submission will necessitate delay in review of the manuscript.

Manuscripts

Two copies of the complete manuscript including legends, tables, references and glossy prints should be submitted. All copies should be typed on standard size paper, double-spaced with margins at least 3 cm; xerographic reproductions are preferred to carbon. A covering letter indicating the author responsible for correspondence and his address should accompany the manuscript.

Titles and Authors' Names

These should be provided on a separate page in duplicate giving the full title of the paper; a shorter title for the table of contents; the author(s) first name(s), initial(s) and academic degree(s); the name of the department and institution where the work was done and the name and address of the author to whom requests for reprints should be directed.

Abstracts

On a separate sheet, a double-spaced abstract of not more than 150 words should be submitted in duplicate. This should be factual telling of what was done, what was observed and what was concluded. A separate summary should not be provided.

Abbreviations and Symbols

Usage recommended in STYLE MANUAL FOR

BIOLOGICAL JOURNALS (3rd ed., 1972) should be followed insofar as possible. The first time an abbreviation is used, it should be explained. Generic names should be employed for drugs; if the author wishes to identify an agent by trade name, it should be inserted parenthetically at the first use of the term. Units of measurement should generally be metric including height and weight.

References

References should be double-spaced and on a separate page(s) and should be numbered consecutively as they are cited in the text. The citations should conform to the style of the INDEX MEDICUS and the publications of the American Medical Association. The inclusive pages should be given but the number and day or month of the cited issue should not be included. Author(s) surname and initial(s); title and subtitle of the paper; journal or book in which it appeared; volume number, inclusive pagination and year for journal citation; title of book, editor if a collection, edition other than first, city, publisher, year and page of specific reference for books should be indicated. For example:

1. Villant GE, Sobowale NC, McArthur C: Some psychologic vulnerabilities of physicians. *N Engl J Med* 287:372-375, 1972.
2. Fox RC: *The Student-Physician: Introductory Studies in the Sociology of Medical Education*. Edited by Merton RK. Cambridge, Harvard University Press, 1957, pp 207-241.
3. Sniscak M: *Cumulative Cumulus Therapy*. Los Angeles, Exotic and Esoteric Press, 1984, p 8.

Unpublished data and personal communication should be alluded to in footnotes. Footnotes, however, should be limited and separated from the text by a line.

Tables and Illustrations

These should be typed in double-space on separate sheets. Arabic numerals should be used and a legend for each table submitted. Tables should be as succinct as possible. Lines should be omitted and symbols and units given with the column heading. Other symbols should be explained at the bottom of the table. Illustrations should be glossy, black and white prints or line drawings. The name of the first author, the figure number and the top of the figure should be written lightly in pencil on the back of each print. Legends should be typed consecutively for each figure on a separate sheet. If illustrations have appeared elsewhere, p

"THE PHYSICIAN IS A DECISION MAKER, AND ALMOST EVERY DECISION HE MAKES COSTS OR SAVES MONEY."

—Dr. William Felts, Past President,
American Society of Internal Medicine



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*PATIENT CARE Magazine—Outlook 1977 "Face-Off: Cost Containment vs. Chaos," January 1, 1977

Lyle CB, et al "Practice habits in a group of eight internists," ANNALS OF INTERNAL MEDICINE 84 (May 1976), 594-601

Schroeder SA, et al "Use of laboratory tests and pharmaceuticals: variation among physicians and effect of cost audit on subsequent use," JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION 225 (Aug. 20, 1973), 969-73



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Editor

NORTH CAROLINA MEDICAL JOURNAL

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DOWN HOME: HIGHLAND GAMES

Ever since the Scotsman, Adam Smith, father of modern economics, introduced his readers to the division of labor, we have confirmed many times over that specialization is our chosen way. In industry, in medicine and in sports there has been no turning back; versatility is suspect and depth of knowledge is preferred to breadth. Some of the less thoughtful among us have called this elitism, not appreciating that specialization is necessary in many fields if excellence is to be maintained. The alternative to a dynamic society, seeking novelty, is fixation on a past that never was or allegiance to a future that will never be. We need not, however, nullify history nor abandon tradition else we can be called fools according to the revised adage: Experience is a dear teacher and those who don't learn from her are called fools.

Could he have been reincarnated, Adam Smith might have enjoyed the 23rd annual Grandfather Mountain Highland Games in June because he could have watched with delight traditional Scottish athletic specialties: Tossing the caber, hurling the sheaf and a variety of precise and vigorous dances — emblems of

individualism — and the bands of bagpipers enjoying group discipline. He would have approved of Agnes Morton's devotion to her and our heritage in founding the games and would have applauded son Hugh's conversion of the Mountain into a successful private enterprise, a surprisingly satisfying blend of salesmanship and conservation. Had he thought medically, he might have wondered what sort of specialist catered to crowds. But American crowds are amazingly docile and tolerant even of oppressive heat, traffic jams and soporific speeches. While *Newsweek* (July 24, 1978) called the Games a "whiskey-sloshed celebration," the closest thing to Dewar's was the costume gloriously worn by many members of the clans; beer did flow but, like sweet Afton, gently. There was a medical tent (the doctor in charge even had his picture in the program) but it wasn't very busy.

There was some uncertainty about bagpipers who played in groups and singly, mainly because American ears are not well attuned to their skirl. But the kilts, plaids and sporrans so attracted the eye that the music became almost pleasant. We discovered only when we got home that bagpipers are at some medical risk. It seems that bagpipes require a source of compressed air. The leather bag used for this purpose as a reservoir is traditionally lined with molasses although a commercial preparation is now available. These liners appear to be good fungal culture media from which spores may reach the player's mouth during maximum inspiration and thence the lungs. A case of pulmonary cryptococcosis in an immunosuppressed piper has recently been reported; fortunately he responded to the administration of amphotericin and flucytosine. Adam Smith would have been concerned about mycoses in pipers but would have hesitated to invite an evaluation of the problem by N.I.O.S.H.

J.H.F.

References

1. Cobercroft R, Kronenberg H, Wilkinson T: Cryptococcus in bagpipes. *Lancet* 1:136 1369, 1978.

Committees and Organizations

University of North Carolina School of Medicine Centennial

SCHEDULE OF EVENTS

The School of Medicine at the University of North Carolina at Chapel Hill will hold a two-day program Friday and Saturday, Feb. 9 and 10, in celebration of Centennial.

Included in the events are symposia and a panel discussion that explore medicine past and future. Ceremonies will conclude with a University Convocation at 11 a.m. February 10 to commemorate the medical school anniversary.

The complete schedule:

Friday, February 9,

8:30 a.m.

Symposium: The Medical Student And Physician Of Yesterday And Today. Berryhill Hall, School of Medicine

Presiding: James H. M. Thorp, M.D., President, Medical Alumni Association

"Medical Education And Practice In North Carolina: A Four Hundred Year Overview"

William W. McLendon, M.D., Professor of Pathology, School of Medicine, The University of North Carolina at Chapel Hill

"The Medical Student Of The Late Nineteenth Century"

Brooks Peters, Class of 1980, School of Medicine, The University of North Carolina at Chapel Hill

"Blacks In Medicine"

George I. Lythcott, M.D., Administrator, Health Service Administration, Department of Health, Education and Welfare

"Women In Medicine"

Leah M. Lowenstein, M.D., Ph.D., Professor of Medicine and Biochemistry and Assistant Dean, Boston University School of Medicine

12:00-2 p.m.

Annual Alumni Luncheon And Business Meeting, Carolina Inn

2:00-4:30 p.m.

Symposium: The Future Of Medical Practice, Education And Research. Berryhill Hall, School of Medicine

Presiding: Christopher C. Fordham, M.D., Dean, School of Medicine, and Vice Chancellor for Health Affairs, The University of North Carolina at Chapel Hill

"The Future Of Medical Education"

Frederick C. Robbins, M.D., Dean, Case Western Reserve University

"The Government And Medicine"

L. Richardson Preyer, Member of Congress from the Sixth District of North Carolina

"The Future Of Biomedical Research"

Carl W. Gottschalk, M.D., Kenan Professor of Physiology and Medicine, The University of North Carolina at Chapel Hill

Panel Discussion

Dr. Robbins, Mr. Preyer, Dr. Gottschalk, and Dr. Fordham (Moderator)

6:30 p.m.

Reception And Banquet
Carolina Inn

Saturday, February 10

8:30-10:00 a.m.

Grand Rounds By Clinical Departments

11 a.m.

University Convocation In Commemoration Of The Centennial Of The School Of Medicine, The University Of North Carolina At Chapel Hill, Memorial Hall, University Campus

Address by: Donald S. Frederickson, M.D., Director, National Institutes of Health

VISITING SCHOLARS

A number of departments in the School of Medicine at the University of North Carolina at Chapel Hill have invited scholars and clinicians to be Centennial Alumni Visiting Professors in the celebration of the school's 100th birthday, February 9-10.

The professors and host departments are: Dr. Joseph S. Redding, anesthesiology; Dr. George T. Wolff, family medicine; Dr. Harold J. Fallon, medicine; Dr. Ron G. Michels, ophthalmology; Dr. George D. Penick, pathology; Dr. Laurence E. Earley, physiology; and Dr. Erle E. Peacock, Jr., surgery.

Redding, who will be visiting the Department of Anesthesiology, received an A.B. degree in 1943 and a certificate in medicine in 1946 from UNC-CH. He

earned his M.D. degree in 1948 from the University of Maryland. He presently is professor of anesthesiology and respiratory therapy at the Medical University of South Carolina in Charleston.

He also serves as head of the section on respiratory therapy in the school's College of Medicine, as medical director of the respiratory therapy program in the College of Allied Health Sciences and is on the editorial board of Critical Care Magazine.

Wolff, guest professor in the Department of Family Medicine, is director of the Family Practice Residency Program and the Family Practice Center at Moses H. Cone Memorial Hospital in Greensboro. He is a 1948 graduate of UNC-CH and received his M.D. degree in 1952 from Jefferson Medical College.

In addition to his appointment at UNC-CH as assistant professor of family practice, he also is clinical associate professor of medicine here and clinical assistant professor of community medicine at Duke University. Wolff is chairman of the N.C. Medical Society and a member of the board of directors of the American Academy of Family Physicians. He is a past president of the N.C. Academy of Family Physicians; the Guilford County Medical Society and the N.C. Lung Association.

Fallon, guest professor in medicine, is the William Branch Porter Professor of Medicine and chairman of the Department of Medicine at the Medical College of Virginia in Richmond. A UNC-CH faculty member for 11 years (1963-74), Fallon was professor of medicine

and vice chairman of the department of medicine here.

A graduate of Yale University where he received his B.A. and M.D. degrees, Fallon did both his internship and residency at the N.C. Memorial Hospital.

Michels, guest professor in the Department of Ophthalmology, is an associate professor of ophthalmology at the Johns Hopkins University School of Medicine.

He received the B.S. degree in 1965 and the M.D. degree in 1968 from UNC-CH and did his postgraduate training at the Johns Hopkins University and the University of Miami.

Penick, guest professor in the Department of Pathology, is professor and head of the Department of Pathology at the University of Iowa College of Medicine, consulting pathologist at the Veterans Administration Hospital in Iowa City and chief of the pathology service of the University of Iowa Hospitals and Clinics.

A former UNC-CH faculty member and a Markkles Scholar, he won the medical school's Distinguished Service Award here in 1977. He received a B.S. in medicine in 1944 from UNC-CH and an M.D. degree in 1946 from Harvard Medical School.

Earley, a guest professor for the Department of Physiology, is a specialist in renal research. He received a B.S. degree in 1953 and an M.D. degree in 1956 from UNC-CH and did his postdoctoral training at the Boston City Hospital.

In 1977 he was named the Frank Wister Thomas Professor of Medicine at the University of Pennsylvania and chairman of the Department of Medicine at the Hospital of the University of Pennsylvania.

Earley won the Isaac Manning Outstanding Senior Medical Student Award while at UNC-CH; the Kaiser Award for Excellence in Teaching from the University of California at San Francisco; and in 1976 was presented the Distinguished Service Award from the UNC-CH medical school. He is president of the American Society of Nephrology, a past president of the American Society for Clinical Investigation and a member of the editorial boards of a number of professional journals relating to kidney research.

Peacock, who will be the guest professor in the Department of Surgery, is professor of surgery at Tulane University in New Orleans. He did his undergraduate work and was a student in the then two-year medical school here before receiving his M.D. degree in 1949 from Harvard University.

Peacock, who was a member of the UNC-CH faculty from 1956-1969, has a special interest in plastic surgery and was the founder of the UNC-CH Hand Center for rehabilitation of damaged hands and fingers. Before joining the faculty at Tulane University, he was chairman and professor of the Department of Surgery at the University of Arizona.

Most of the lectures and rounds conducted by the alumni professors will be open to alumni and other interested physicians. Schedules for specific presentations may be obtained by contacting the individual departments.

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2. The "place" and "sponsor" are indicated for a program only when these differ from the place and source to write "for information."

PROGRAMS IN NORTH CAROLINA

February 1-3

Womack Surgical Society Meeting

Place: Berryhill Hall

For Information: Noel McDevitt, M.D., Department of Surgery, UNC School of Medicine, Chapel Hill 27514

February 2-3

North Carolina Conference for Present and Future Medical Leaders
 Place: Sheraton Crabtree Motor Inn, Raleigh

Sponsor: North Carolina Medical Society

For Information: Mr. William N. Hilliard, Executive Director, North Carolina Medical Society, P.O. Box 27167, Raleigh 27611

February 14

Psychopharmacology Update

Place: Pitt County Memorial Hospital, Greenville

Fee: \$15

Credit: 3 hours; AMA Category I

For Information: F. M. Simmons Patterson, M.D., Assistant Dean for Continuing Education, East Carolina University School of Medicine, Greenville 27834

February 16-20

Basic Electroencephalography

Credit: 30 hours

For Information: Malcolm H. Rourke, Jr., M.D. Director, Continuing Medical Education, Duke University Medical Center, Durham 27710

February 17

Update in Ophthalmology

Place: 105 Berryhill Hall

Fee: \$30

Credit: 3 hours

For Information: William Wood, M.D., Director of Continuing Education, UNC School of Medicine, 319 MacNider Building 202-H, Chapel Hill 27514

February 19-23

Microvascular Surgery Workshop

Credit: 40 hours

For Information: Malcolm H. Rourke, Jr., M.D., Director, Continuing Medical Education, Duke University Medical Center, Durham 27710

March 3-4

Anesthesiology
For Information: David Brown, M.D., Department of Anesthesiology, UNC School of Medicine, Chapel Hill 27514

March 7-10

Internal Medicine 1979
Fee: \$150
Credit: 25 hours
Place: Berryhill Hall
For Information: William Wood, M.D., Office of Continuing Education, 319 MacNider Building 202-H, UNC School of Medicine, Chapel Hill 27514

March 9-10

Frank R. Lock Symposium in Obstetrics and Gynecology
Fee: \$125
Credit: 10 hours
For Information: Emery Miller, M.D., Associate Dean for Continuing Education, Bowman Gray School of Medicine, Winston-Salem 27103

March 14

Recent Advances in Surgical Care
Place: Pitt County Memorial Hospital, Greenville
Fee: \$15
Credit: 3 hours; AMA Category 1
For Information: F. M. Simmons Patterson, M.D., Assistant Dean for Continuing Education, East Carolina University School of Medicine, Greenville 27834

March 17-18

Muscular Dystrophy Symposium
Fee: \$35
Credit: 10 hours
For Information: William Wood, M.D., Director of Continuing Education, UNC School of Medicine, 319 MacNider Building 202-H, Chapel Hill 27514

March 24

Our Adolescents, Their Changing World
Place: Babcock Auditorium, Bowman Gray School of Medicine
Sponsors: Forsyth County Auxiliary, North Carolina State Auxiliary and the North Carolina Medical Society
For Information: Mrs. Mary Jane Means, P.O. Box 27167, Raleigh 27611

March 29-30

3rd Annual Symposium of the Cancer Research Center: Cancer and the Macrophage
Sponsor: The Cancer Research Center and the Department of Bacteriology and Immunology
Place: Clinic Auditorium
For Information: Mimi Minkoff, Cancer Research Center, Box 30, Burnett-Womack Building, 229H, UNC School of Medicine, Chapel Hill 27514

March 31-April 1

4th Annual Radiology Update
Fee: \$50
Credit: 10 hours
For Information: Emery Miller, M.D., Associate Dean for Continuing Education, Bowman Gray School of Medicine, Winston-Salem 27103

April 2-6

7th Annual Tutorial — Radiology of the Chest
Sponsor: The Department of Radiology, Duke University School of Medicine
Fee: \$300
Credit: 30 hours
For Information: Robert McLelland, M.D., Radiology — Box 3808, Duke University School of Medicine, Durham 27710

April 6-7

Practical Pediatrics
Fee: \$35
Credit: 10 hours
For Information: Emery Miller, M.D., Associate Dean for Continuing Education, Bowman Gray School of Medicine, Winston-Salem 27103

Tenuate®
(diethylpropion hydrochloride NF)

Tenuate Dospan®
(diethylpropion hydrochloride NF) controlled-release

AVAILABLE ONLY ON PRESCRIPTION

Brief Summary

INDICATION: Tenuate and Tenuate Dospan are indicated in the management of exogenous obesity as a short-term adjunct (a few weeks) in a regimen of weight reduction based on caloric restriction. The limited usefulness of agents of this class should be measured against possible risk factors inherent in their use such as those described below.

CONTRAINDICATIONS: Advanced arteriosclerosis, hyperthyroidism, known hypersensitivity or idiosyncrasy to the sympathomimetic amines, glaucoma. Agitated states. Patients with a history of drug abuse. During or within 14 days following the administration of monoamine oxidase inhibitors, (hypertensive crises may result).

WARNINGS: If tolerance develops, the recommended dose should not be exceeded in an attempt to increase the effect; rather, the drug should be discontinued. Tenuate may impair the ability of the patient to engage in potentially hazardous activities such as operating machinery or driving a motor vehicle, the patient should therefore be cautioned accordingly. *Drug Dependence.* Tenuate has some chemical and pharmacologic similarities to the amphetamines and other related stimulant drugs that have been extensively abused. There have been reports of subjects becoming psychologically dependent on diethylpropion. The possibility of abuse should be kept in mind when evaluating the desirability of including a drug as part of a weight reduction program. Abuse of amphetamines and related drugs may be associated with varying degrees of psychologic dependence and social dysfunction which, in the case of certain drugs, may be severe. There are reports of patients who have increased the dosage to many times that recommended. Abrupt cessation following prolonged high dosage administration results in extreme fatigue and mental depression; changes are also noted on the sleep EEG. Manifestations of chronic intoxication with anorectic drugs include severe dermatoses, marked insomnia, irritability, hyperactivity, and personality changes. The most severe manifestation of chronic intoxications is psychosis, often clinically indistinguishable from schizophrenia. *Use in Pregnancy.* Although rat and human reproductive studies have not indicated adverse effects, the use of Tenuate by women who are pregnant or may become pregnant requires that the potential benefits be weighed against the potential risks. *Use in Children:* Tenuate is not recommended for use in children under 12 years of age.

PRECAUTIONS: Caution is to be exercised in prescribing Tenuate for patients with hypertension or with symptomatic cardiovascular disease, including arrhythmias. Tenuate should not be administered to patients with severe hypertension. Insulin requirements in diabetes mellitus may be altered in association with the use of Tenuate and the concomitant dietary regimen. Tenuate may decrease the hypotensive effect of guanethidine. The least amount feasible should be prescribed or dispensed at one time in order to minimize the possibility of overdosage. Reports suggest that Tenuate may increase convulsions in some epileptics. Therefore, epileptics receiving Tenuate should be carefully monitored. Titration of dose or discontinuance of Tenuate may be necessary.

ADVERSE REACTIONS: *Cardiovascular:* Palpitation, tachycardia, elevation of blood pressure, precordial pain, arrhythmia. One published report described T-wave changes in the ECG of a healthy young male after ingestion of diethylpropion hydrochloride. *Central Nervous System:* Overstimulation, nervousness, restlessness, dizziness, jitteriness, insomnia, anxiety, euphoria, depression, dysphoria, tremor, dyskinesia, mydriasis, drowsiness, malaise, headache, rarely psychotic episodes at recommended doses. In a few epileptics an increase in convulsive episodes has been reported. *Gastrointestinal:* Dryness of the mouth, unpleasant taste, nausea, vomiting, abdominal discomfort, diarrhea, constipation, other gastrointestinal disturbances. *Allergic:* Urticaria, rash, ecchymosis, erythema. *Endocrine:* Impotence, changes in libido, gynecomastia, menstrual upset. *Hematopoietic System:* Bone marrow depression, agranulocytosis, leukopenia. *Miscellaneous:* A variety of miscellaneous adverse reactions has been reported by physicians. These include complaints such as dyspnea, hair loss, muscle pain, dysuria, increased sweating, and polyuria.

DOSAGE AND ADMINISTRATION: Tenuate (diethylpropion hydrochloride). One 25 mg. tablet three times daily, one hour before meals, and in mid-evening if desired to overcome night hunger. Tenuate Dospan (diethylpropion hydrochloride) controlled-release. One 75 mg. tablet daily, swallowed whole, in mid-morning. Tenuate is not recommended for use in children under 12 years of age.

OVERDOSAGE: Manifestations of acute overdosage include restlessness, tremor, hyperreflexia, rapid respiration, confusion, assaultiveness, hallucinations, panic states. Fatigue and depression usually follow the central stimulation. Cardiovascular effects include arrhythmias, hypertension or hypotension and circulatory collapse. Gastrointestinal symptoms include nausea, vomiting, diarrhea, and abdominal cramps. Overdose of pharmacologically similar compounds has resulted in fatal poisoning, usually terminating in convulsions and coma. Management of acute Tenuate intoxication is largely symptomatic and includes lavage and sedation with a barbiturate. Experience with hemodialysis or peritoneal dialysis is inadequate to permit recommendation in this regard. Intravenous phenitamine (Regitine®) has been suggested on pharmacologic grounds for possible acute, severe hypertension, if this complicates Tenuate overdosage.

Product Information as of April, 1976
MERRELL-NATIONAL LABORATORIES Inc.
Cayey, Puerto Rico 00633
Direct Medical Inquiries to
MERRELL-NATIONAL LABORATORIES
Division of Richardson-Merrell Inc.
Cincinnati, Ohio 45215, U.S.A.
Licensor of Merrell®

References: 1. Citations available on request — Medical Research Department, MERRELL RESEARCH CENTER, MERRELL-NATIONAL LABORATORIES, Cincinnati, Ohio 45215. 2. Hoekenga, M.T., O'Dillon, R.H., and Leyland, H.M. A Comprehensive Review of Diethylpropion Hydrochloride. International Symposium on Central Mechanisms of Anorectic Drugs, Florence, Italy, Jan. 20-21, 1977.

Merrell

8-3921 (Y587A)

**Whether overweight is a
complicating factor...
or just uncomplicated overweight.**

Tenuate[®] Dospan[®] ^{IV} **(diethylpropion hydrochloride NF)**

75 mg. controlled-release tablets

A useful short-term adjunct in an indicated weight loss program.

Overweight patients in certain diagnostic categories often require strict obesity control. Diethylpropion hydrochloride has been reported useful in obese patients with hypertension, symptomatic cardiovascular disease, or diabetes. While it is not suggested that Tenuate in any way reduces these complications in the overweight, it may have a useful place as a short-term adjunct in a prescribed dietary regimen. (Tenuate should not be administered to patients with severe hypertension; see additional Warnings and Precautions on the opposite page.)

In uncomplicated obesity.

Many patients, on the other hand, present with excess fat but no disease. While this condition is often termed uncomplicated obesity, complications of both a social and a psychologic nature may be distressingly real for the patients. In these cases, a short-term regimen of Tenuate can help reinforce your dietary counsel during the important early weeks of an indicated weight loss program.

Clinical effectiveness.

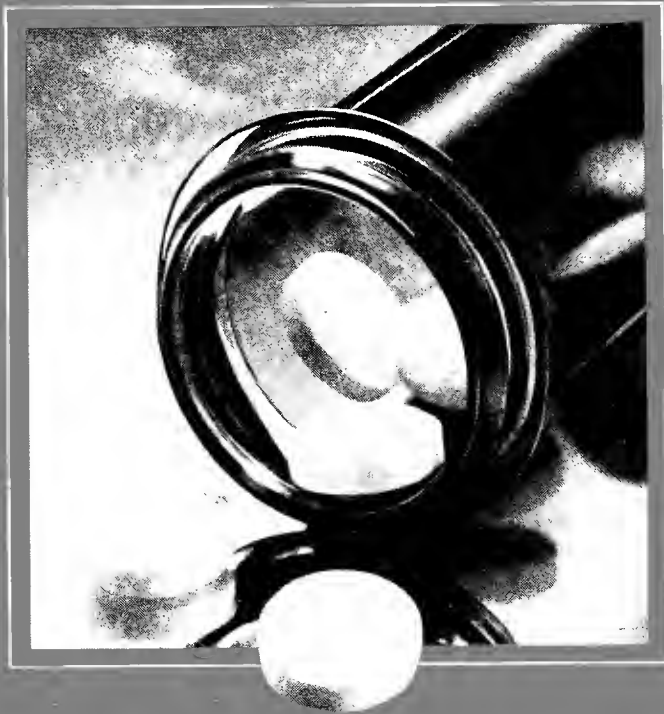
The anorexic effectiveness of diethylpropion hydrochloride is well documented. No less than 16 separate double-blind, placebo-controlled studies attest to its usefulness in daily practice.¹ And the unique chemistry of Tenuate provides "...anorexic potency with minimal overt central nervous system or cardiovascular stimulation."² Compared with the amphetamines, diethylpropion has minimal potential for abuse.

**Tenuate—it makes sense.
And it's responsible medicine.**

Merrell



For prescribing information see opposite page.



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Pharmaceuticals

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April 11

Current Clinical Problems in Family Practice
Place: Pitt County Memorial Hospital, Greenville
Fee: \$15
Credit: 3 hours
For Information: F. M. Simmons Patterson, M.D., Assistant Dean for Continuing Education, East Carolina University School of Medicine, Greenville 27834

April 12

33rd Annual Medical Symposium — Greensboro Academy of Medicine
Place: Jefferson Standard Club
Fee: None
Credit: 6 hours; AMA Category 1 and AAFP
For Information: Robert M. Gay, M.D., Moses Cone Memorial Hospital, Greensboro 27420

April 18-20

Key Orthopedic Lectures
Place: Berryhill Hall
For Information: William Wood, M.D., Director of Continuing Education, 319 MacNider Building 202-H, UNC School of Medicine, Chapel Hill 27514

April 18-20

Governor's Conference on Mental Health
Place: Raleigh Civic Center
For Information: Mrs. Margaret Riddle, Department of Administration, 116 Jones Street, Raleigh 27603

April 20-22

King Radiology Seminar
Place: Berryhill Hall
For Information: William Wood, M.D., Director of Continuing Education, 319 MacNider Building, 202-H, UNC School of Medicine, Chapel Hill 27514

April 27-28

Perspectives on Pain Management
Fee: \$100
Credit: 12 hours
For Information: Emery Miller, M.D., Associate Dean for Continuing Education, Bowman Gray School of Medicine, Winston-Salem 27103

April 27-28

On Malignant Disease Symposium
Fee: \$90
Credit: 9 hours
For Information: William Wood, M.D., Director of Continuing Education, UNC School of Medicine, 319 MacNider Building 202-H, Chapel Hill 27514

May 2-3

Annual Meeting of the North Carolina Thoracic Society
Place: Royal Villa, Raleigh
For Information: Mr. C. Scott Venable, Executive Director, North Carolina Lung Association, P.O. Box 127, Raleigh 27602

May 3-6

24th Annual Session of the North Carolina Medical Society
Place: Pinehurst Hotel and Country Club, Pinehurst
For Information: Mr. William N. Hilliard, Executive Director, North Carolina Medical Society, P.O. Box 27167, Raleigh 27611

May 9-10

Respiratory Care Symposium: Breath of Spring 1979
Fee: \$35
Credit: 10 hours
For Information: Emery Miller, M.D., Associate Dean for Continuing Education, Bowman Gray School of Medicine, Winston-Salem 27103

May 18-19

Annual Course in Perinatology
Fee: \$50
Credit: 9 hours
For Information: William Wood, M.D., Director of Continuing Education, 319 MacNider Building 202-H, UNC School of Medicine, Chapel Hill 27514

May 23-25

North Carolina Heart Association Annual Meeting and Scientific Session

Place: Winston-Salem Hyatt House
For Information: North Carolina Heart Association, 1 Heart Circle, Chapel Hill 27514

June 9

Update in Ophthalmology
Place: 105 Berryhill Hall
Fee: \$30
Credit: 3 hours
For Information: William Wood, M.D., Director of Continuing Education, UNC School of Medicine, 319 MacNider Building 202-H, Chapel Hill 27514

June 16-17

Practical Dermatology
Place: Emerald Isle
Fee: \$50
Credit: 7 hours
For Information: W. M. Sams, Jr., M.D., N.C. Memorial Hospital, Chapel Hill 27514

June 21-23

Mountain Top Medical Assembly
Place: Waynesville Country Club
For Information: Clinton L. Border, Jr., M.D., 204 Depot Street, Waynesville 28786

July 12-14

First Annual Mountain Workshop
Place: Asheville
Fee: \$100
Credit: 12 hours
For Information: Emery C. Miller, M.D., Associate Dean for Continuing Education, Bowman Gray School of Medicine, Winston-Salem 27103

ITEMS OF SPECIAL INTEREST

February 12-16

Current Concepts in Diagnostic Radiology

"One of the seven greatest
pleasures in a man's life . . . **DAKS®** . . ."

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**PAUL
SIMON**
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1027 Providence Road

Charlotte, N.C.

Place: Acapulco Princess Hotel, Mexico
 Sponsor: Department of Radiology, Duke University Medical Center
 Fee: \$250
 For Information: Robert McLelland, M.D., Radiology Box 3808, Duke University Medical Center, Durham 27710

March 5-8

18th National Conference of the Detection and Treatment of Breast Cancer
 Place: Atlanta, Georgia
 Sponsor: American College of Radiology
 For Information: American College of Radiology, 6900 Wisconsin Avenue, Chevy Chase, Maryland 20015

March 30-31

Practical Internal Medicine for the Practitioner
 Place: Ochsner Medical Institutions
 Fee: \$110; residents \$55
 Credit: 12 hours
 For Information: Continuing Education, Alton Ochsner Medical Foundation, 1516 Jefferson Highway, New Orleans, Louisiana 70121

May 6-10

2nd International Symposium on Adolescent Medicine
 Place: Mayflower Hotel, Washington, D.C.
 Sponsor: The Society for Adolescent Medicine
 Fee: \$150
 For Information: The Institute for Continuing Education, P.O. Box 11083, Richmond, Virginia 23230

Abdominal Real Time Sonography Courses

A series of six week-long courses on the use of Real Time Ultrasound in abdominal studies will be offered at Bowman Gray School of Medicine on the following dates: March 12-16, June 11-15, July 16-20 and December 9-13, 1979. Participants will receive 30 hours of Category I credit per week.

For further information, please contact, James F. Martin, M.D., M.D., Director, Center for Medical Ultrasound, Bowman Gray School of Medicine, Winston-Salem 27103

PROGRAMS IN CONTIGUOUS STATES

February 19-23

3rd Annual Review of Internal Medicine
 Place: The University of Tennessee, Memphis
 Credit: 35 hours
 For Information: Dennis K. Wentz, M.D., The University of Tennessee Center for the Health Sciences, 62 South Dunlap Street, Memphis, Tennessee 38163

February 23-24

Virginia Chapter of the American Academy of Pediatrics Annual Meeting
 Place: Williamsburg, Virginia
 For Information: Douglas E. Pierce, M.D., 1201 Third Street, S.W., Roanoke, Virginia 24016

June 29-30

Medical Horizons: Hypertension and Cardiovascular Disease
 Place: Myrtle Beach, South Carolina
 Fee: \$150
 Credit: 10 hours
 For Information: Emery C. Miller, M.D., Associate Dean for Continuing Education, Bowman Gray School of Medicine, Winston-Salem 27103

July 30-August 3

Seventh Annual Beach Workshop
 Place: Myrtle Beach, South Carolina
 Fee: \$150
 Credit: 20 hours
 For Information: Emery C. Miller, M.D., Associate Dean for Continuing Education, Bowman Gray School of Medicine, Winston-Salem 27103

The items listed in the above column are for the six months immediately following the month of publication. Requests for listing should be received by "WHAT? WHEN? WHERE?", P.O. Box 27167, Raleigh 27611, by the 10th of the month prior to the month in which they are to appear. A "Request for Listing" form is available on request.

TEGA-VERT TABLETS

VERTIGO • MOTION SICKNESS • NAUSEA • MOOD ELEVATION

EACH SUGAR COATED TABLET CONTAINS:

PENTYLENETETRAZOL (Metrazol)	50mg
NIACIN	50mg
DIMENHYDRINATE (Dramamine)	25mg

ADMINISTRATION AND DOSAGE: One or two tablets three or four times daily before or after meals.

INDICATIONS: **TEGA-VERT** is indicated in the symptomatic management of idiopathic vertigo, as well as that associated with Meniere's Syndrome, Arterial Hypertension, Labyrinthitis, Fenestration Procedures, Radiation Sickness and Tonic Effect. **TEGA-VERT** has also been of value in patients with clinical symptoms of senility and functional cerebral impairment as well as symptomatic nausea.

CONTRAINDICATIONS: **TEGA-VERT** should not be used in patients with known history of sensitivity to any of its ingredients. Because of its vasodilating effects, niacin is contraindicated in the presence of arterial hypotension.

PRECAUTIONS AND SIDE EFFECTS: Although there are not absolute contraindications to oral pentylenetetrazol, it should be used with caution in epileptic patients or those known to have a low convulsive threshold. Dimenhydrinate, like other antihistamines may produce sedative side effects, therefore, caution against operating mechanical equipment should be observed. This has not been a significant problem with **TEGA-VERT** since it contains a mild central nervous system stimulant. Niacin can produce transient flushing and sensations of warmth.

HOW SUPPLIED: Bottles of 100 and 1000 tablets.

CAUTION: Federal law prohibits dispensing without a prescription.

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News Notes from the

**UNIVERSITY OF NORTH CAROLINA-
CHAPEL HILL SCHOOL OF MEDICINE
AND
NORTH CAROLINA MEMORIAL HOSPITAL**

Researchers at the School of Medicine have been awarded a \$2 million, five-year grant from the National Institute of Neurological and Communicative Disorders and Stroke to investigate injuries to the central nervous system.

Dr. Edward R. Perl, professor and chairman of physiology and project director, said the scientists will be looking for answers to how nerve cells of the spinal cord react to injury and the kind of changes that take place as these cells attempt to recover.

Perl said such research should shed light on the heretofore obscure behavior of injured neural tissue and the degree of recovery possible in the central nervous system.

He said their findings should aid physicians in treating people with injuries to the peripheral or central nervous system and should also help in assessing the therapeutic value of controversial treatments, such as enzyme injections or grafts of nervous tissue, for persons paralyzed with spinal cord injuries.

* * *

The UNC-CH Cancer Research Center has received a \$1 million renewal grant from the National Cancer Institute.

The center, one of about 30 in the country recognized by the Institute as a specialized cancer center, is expanding clinical ties with cancer specialists at N.C. Memorial Hospital so that breakthroughs in laboratory research can rapidly be applied in the treatment of cancer patients. Also, the center plans to set up a network for passing along its discoveries to doctors and other health professionals across North Carolina through the Area Health Education Centers program. The programs at the center include:

*A tumor virology and molecular biology program designed to shed light on mechanisms involved in the production of tumors and to study crucial aspects of cell division.

*A chemical carcinogenesis program to study the molecular mechanisms by which carcinogens alter hereditary factors and to develop more meaningful methods to detect true carcinogens that may produce cancerous changes in human cells.

*An immunology program that deals with various aspects of how antibodies fight or attempt to fight the spread of malignant cells.

*A drug development program being planned in cooperation with the division of medical oncology and the School of Pharmacy.

*A cell biology program that seeks to understand the difference between growth regulation in normal and cancerous cells.

* * *

Researchers in the UNC-CH School of Medicine have received a \$189,407 three-year grant from the National Institute of Environmental Health Sciences to continue their study of how environmental pollutants damage the developing nervous system.

The group, headed by Dr. Lorcan A. O'Tuama, associate professor of neurology and chief of pediatric neurology, is especially interested in effects of these pollutants at "low levels" of exposure.

Dr. C. S. Kim, research instructor in neurology and research scientist in the Biological Sciences Research Center, is co-investigator.

* * *

Dr. Frederick A. Dombrose, pathology and biochemistry, has received a \$158,630 three-year grant from the National Institutes of Health for his study, "Thrombogenic Phospholipid Surfaces." He will study the role of lipid surfaces in blood coagulation with the assistance of Dr. Barry R. Lentz, biochemistry.

* * *

The division of physical therapy in the department of medical allied health professions at UNC-CH has been awarded a \$121,000 grant for postgraduate and continuing education programs in pediatric physical therapy.

The grant supports fellowships for master's degree candidates in physical therapy and for those in non-degree postgraduate studies in physical and occupational therapy.

This is the fourth year of the five-year grant which is awarded by the Bureau of Community Health Services, Maternal and Child Health Services of the U.S. Public Health Service.

The program's staff includes Dr. Suzann K. Campbell, project director and program director for graduate education; Janet M. Wilson, program director for continuing education; Frankie G. Harrison, instructor and program director for postgraduate fellowships, and Elizabeth T. McBride, clinical instructor and clinical education coordinator for postgraduate fellows.

* * *

A team of investigators in the UNC-CH School of Medicine has been awarded a \$77,000 contract from the National Institute of Health's National Cancer Institute to continue research into the genetics of cancer susceptibility.

The team, headed by Dr. Geoffrey Haughton, professor of bacteriology and immunology, will pursue its earlier findings that inherited factors are influential in

determining whether mice, injected with a cancer-causing virus, develop cancer.

The team is working on the specific problem of discovering why some families of mice develop cancer and others do not.

Others on the team include Dr. Alan Whitmore, a Chaim Weizmann Fellow; Dr. George Babcock, a National Research Service Fellow, and Richard Banks, a graduate student in genetics.

* * *

Dr. Kenneth Bott of the UNC-CH School of Medicine has been awarded a \$58,000 National Science Foundation grant.

Bott, associate professor of bacteriology and immunology, and his research student, Charles Moran, are studying the organization of ribosomal genes in the chromosomes of a common soil bacterium.

Bott and Moran will investigate why some genes need to be close to identical copies of themselves, why more than a single copy of some genes is necessary and how the sequences of genes are regulated.

* * *

Dr. Clayton E. Wheeler Jr., chairman of dermatology, directed a session on viral infections at the Southeastern Seaboard Consortium for Continuing Medical Education in Dermatology in Atlanta. As

chairman of the Residency Review Committee for Dermatology, he participated in a special session to consider the first postgraduate year of medical education at the meeting of the Liaison Committee on Graduate Medical Education in Chicago. He also attended meetings of the American Board of Medical Specialties in Chicago as president of the American Board of Dermatology.

* * *

Dr. L. R. McCarthy, director, clinical microbiology labs at N.C. Memorial Hospital, attended the "Inter-Science Conference on Antimicrobial Agents and Chemotherapy" in Atlanta.

* * *

Dr. Margaret L. Moore, physical therapy, presented "Building Winning Teams" at the Allied Health Colloquium at the UNC-CH School of Medicine.

* * *

Dr. Walter Blair Greene, orthopaedics, presented "Bilateral Congenital Dislocation of the Hip" to the American Academy of Pediatrics in Chicago.

* * *

Dr. Frank C. Wilson, surgery, division of or

TREATMENT AND LEARNING CENTER FOR ALCOHOL RELATED PROBLEMS



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Individual counseling and group therapy are provided for the family as well as the guests.

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Fellowship Hall will arrange connections with commercial transportation.

oedics, presented "Pathogenesis and Manage-
et of Ankle Fractures" to the Department of
ropaedic surgery, University of Pittsburgh.

* * *

I. Michael DeBakey, an internationally known
oer in heart surgery, was named the 1978 Merri-
o Lecturer at the UNC-CH School of Medicine.

Je topic of his address was "Relighting the Lamp
xcellence."

Je lectureship, endowed by the late Dr. Louise
erimon Perry of Asheville in memory of her father,
his to the campus each fall a distinguished indi-
dal who "possesses both high professional qualifi-
cations and a notably humanistic approach to medi-
n."

* * *

I. Martha K. Sharpless, associate professor of
iatrics, has been named the 1978 Area Health Edu-
n Center traveling fellow.

Sharpless is chief of pediatric services at Moses H.
oe Memorial Hospital in Greensboro. As traveling
llw, she spent four weeks in October observing
zh-care delivery in England.

Her appointment as traveling fellow is part of an
change program established by Dr. Christopher C.
oham III, dean of the UNC-CH School of Medi-
n and Dr. John Lister, regional postgraduate dean
he North West Thames region in England, Uni-
erty of London.

* * *

Is. Robert A. Briggaman and W. Ray Gammon,
enatology, attended a course on "Cell Membrane
ology" and a five-day workshop on the presenta-
on purification and identification of cell and or-
elle membranes at the Givens Institute of
obiology in Aspen, Colo.

* * *

I. W. Mitchell Sams Jr., dermatology, was a vis-
n professor in the Department of Dermatology at
e University of Oregon Health Sciences Center in
oland. He delivered lectures on necrotizing vas-
culis and photosensitivity to an audience of der-
atology residents, students, faculty and visiting
enatologists.

* * *

Je division of physical therapy at the School of
eicine has been awarded a \$214,000 grant to ex-
me criteria for selecting places for students in
zh fields to do their required practical work. Mar-
ut Moore is principal investigator for the two-year
ect funded through the Department of Health,
ducation and Welfare's Division of Associated
eith Professions.

* * *

I. Seymour L. Halleck, professor of psychiatry at

the School of Medicine, was presented the Edwin
Sutherland Award by the American Society of
Criminology.

Halleck, who was honored during the society's an-
nual meeting in Dallas, was cited for his outstanding
contributions to criminology.

He is the first psychiatrist to win the Sutherland
Award, which is named for the father of American
scientific criminology. Past recipients include
nationally-known criminologists Marvin Wolfgang,
Simon Dinitz and Marshall Cinard.

A specialist in forensic psychiatry, Halleck has
written and edited numerous books and articles on
crime. He is a member of the board of directors of the
National Council on Crime and Delinquency and the
American Society of Criminology.

As a psychiatrist, Halleck was nationally recog-
nized this year for his book *The Treatment of Emo-
tional Disorders*, considered the first comprehensive
text for students and professionals in selecting treat-
ment.

* * *

A resident in the department of psychiatry at the
School of Medicine has been awarded a Maurice Falk
Fellowship by the American Psychiatric Association.

Dr. Kenneth M. Selig, a second-year resident, was
awarded the two-year fellowship that will enable him
to participate in seminars, committees and task force
groups of the association. As a fellow, he will help
create and determine its programs and policies.

Selig is one of 20 fellows chosen, and the third Falk
fellow to come from the UNC-CH Department of Psy-
chiatry in the last three years.

A native of Newton, Mass., Selig earned his under-
graduate degree at UNC-CH. He received his M.D.
degree from Boston University and will complete his
residency here in 1981.

* * *

Appointments:

New faculty are Gordon D. Ross, associate profes-
sor in the Departments of Medicine, Bacteriology and
Immunology; Ann E. Stuart, associate professor in
the Departments of Physiology and Ophthalmology;
Jean M. Lauder, associate professor in the Depart-
ment of Anatomy; Raymond J. Dingleline, Jr., assis-
tant professor in the Department of Pharmacology, in
the School of Medicine; and Carol L. Garrison, clini-
cal assistant professor of pediatrics (and assistant
professor in the School of Nursing).

Ross was an assistant professor at Cornell Univer-
sity Medical College before coming to Chapel Hill. He
has done research at the University of Miami Medical
School and had a one-year fellowship at the National
Jewish Hospital and Research Center. Stuart holds a
research career development award at the National
Eye Institute and was an assistant professor at Har-
vard Medical School. Lauder comes to Chapel Hill
from the University of Connecticut, where she was
assistant professor in residence. She has served as a

staff fellow at the National Institutes of Mental Health. Dingleline has served as postdoctoral fellow for the past year at the Neurophysiology Institute of the University of Oslo, Norway. He was also postdoctoral fellow for the MRC Neurochemical Pharmacology Unit in Cambridge, England. Garrison comes to the university from the University of Alabama where she has been a clinical nursing specialist in the Department of Adolescent Medicine. Garrison also was an assistant professor in the graduate program at the University of Alabama School of Nursing and a nurse advocate in the nursing assessment satellite training project at the University of Washington School of Nursing.

News Notes from the—

DUKE UNIVERSITY MEDICAL CENTER

Dr. Joseph A. C. Wadsworth, chairman emeritus and professor of ophthalmology, delivered the deSchweinitz Lecture in Philadelphia in November.

Wadsworth's speech was "Orbital Tumors: Their Diagnosis and Treatment."

The deSchweinitz Lecture is sponsored annually by the American Medical Association (AMA) in honor of Dr. George Edmund deSchweinitz, the only ophthalmologist ever elected president of the AMA.

Wadsworth was chairman of the Department of Ophthalmology for 13 years.

* * *

Dr. Henry Kamin, professor of biochemistry, has been named to the Food and Nutrition Board of the National Academy of Sciences' National Research Council.

Kamin will serve a three-year appointment with board which is considered the nation's foremost authority on food and nutrition.

Perhaps best known for its work in publishing "Recommended Dietary Allowances" every five years, the Food and Nutrition Board also advises U.S. government and other groups on health, food safety, food chemical specifications, food resources and international nutrition programs.

It is composed of 16 distinguished scientists selected from universities, industry and government.

Kamin, a native of Warsaw, Poland, is an expert on how enzymes function. He is currently studying trypsin reductase, one of the key enzymes that control plant fertility and growth through nitrogen usage.

* * *

Dr. David C. Sabiston Jr., James B. Duke Professor and chairman of the Department of Surgery, has received the 1978 North Carolina Award for Science for his international leadership among surgeons and dedication to the ideals of teaching.



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The award was presented by Gov. James B. Hunt Jr. at a ceremony held in Raleigh Nov. 9.

Sabiston graduated in 1943 from the University of North Carolina at Chapel Hill and in 1947 from The Johns Hopkins University School of Medicine. He was professor of surgery at Johns Hopkins before he was appointed professor and chairman of surgery at Duke in 1964.

* * *

Dr. Rebecca H. Buckley, professor of pediatrics and associate professor of immunology, was installed as president of the Southeastern Allergy Association during an October meeting in Sea Island, Ga. She also is president-elect of the American Academy of Allergy.

Dr. Buckley was a program participant during a Pediatric Immunology Meeting in Santa Barbara, Calif., Oct. 16-20, and served as co-director of an American Medical Association Course on Allergy and Immunology, given in Asheville, Oct. 22.

* * *

Dr. Jeffrey Houpt, associate professor of psychiatry, has been appointed head of the Division of Psychosomatic Medicine.

Houpt is succeeding Dr. Marianne S. Breslin, who has been appointed chief of the psychotherapy section in the same division.

Houpt joined the Duke faculty as an associate pro-

fessor in 1975. He earned a B.S. degree in 1963 from Wheaton College and was awarded an M.D. degree from the Baylor College of Medicine in 1967.

* * *

Dr. Robert McLelland, associate professor of radiology, was a guest lecturer at the Cornell University Medical College and The New York Hospital Radiology Postgraduate Course, Oct. 6-8. He spoke on "Opportunistic Infections of the Lung."

* * *

Third-year medical student Scott Eden won the third annual Marine Corps Marathon which attracted 5,988 runners in Washington in November.

Eden finished the race in 2 hours, 18 minutes and 45 seconds. His nearest pursuer was three-quarters of a mile behind him at the time and finished 3:47 later.

Eden earned his undergraduate degree from Duke in 1975 and worked one year as a technician in the chemistry lab before entering the medical school.

* * *

The Davison Club has contributed its first \$1 million.

The club is a donor organization founded in 1964 in honor of the late Dr. Wilburt C. Davison, the first doctor of medicine at Duke. Members pledge at least \$1,000 annually to the School of Medicine.

During the organization's inaugural year, Davi-



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Before prescribing, see complete prescribing information in SK&F Co. literature or PDR. A brief summary follows:

* Warning

This drug is not indicated for initial therapy of edema or hypertension. Edema or hypertension requires therapy titrated to the individual. If this combination represents the dosage so determined, its use may be more convenient in patient management. Treatment of hypertension and edema is not static, but must be reevaluated as conditions in each patient warrant.

Contraindications: Further use in anuria, progressive renal or hepatic dysfunction, hyperkalemia. Pre-existing elevated serum potassium. Hypersensitivity to either component or other sulfonamide-derived drugs.

Warnings: Do not use potassium supplements, dietary or otherwise, unless hypokalemia develops or dietary intake of potassium is markedly impaired. If supplementary potassium is needed, potassium tablets should not be used. Hyperkalemia can occur, and has been associated with cardiac irregularities. It is more likely in the severely ill, with urine volume less than one liter/day, the elderly and diabetics with suspected or confirmed renal insufficiency. Periodically, serum K⁺ levels should be determined. If hyperkalemia develops, substitute a thiazide alone, restrict K⁺ intake. **Associated widened QRS complex or arrhythmia requires prompt additional therapy.** Thiazides cross the placental barrier and appear in cord blood. Use in pregnancy requires weighing anticipated benefits against possible hazards, including fetal or neonatal jaundice, thrombocytopenia, other adverse reactions seen in adults. Thiazides appear and triamterene may appear in breast milk. If their use is essential, the patient should stop nursing. Adequate information on use in children is not available.

Precautions: Do periodic serum electrolyte determinations (particularly important in patients vomiting excessively or receiving parenteral fluids). Periodic BUN and serum creatinine determinations should be made, especially in the elderly, diabetics or those with suspected or confirmed renal insufficiency. Watch for signs of impending coma in severe liver disease. If spiro-nolactone is used concomitantly, determine serum K⁺ frequently; both can cause K⁺ retention and elevated serum K⁺. Two deaths have been reported with such concomitant therapy (in one, recommended dosage was exceeded, in the other serum electrolytes were not properly monitored). Observe regularly for possible blood dyscrasias, liver damage, other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving triamterene, and leukopenia, thrombocytopenia, agranulocytosis, and aplastic anemia have been reported with thiazides. Triamterene is a weak folic acid antagonist. Do periodic blood studies in cirrhotics with splenomegaly. Antihypertensive effect may be enhanced in post-sympathectomy patients. Use cautiously in surgical patients. The following may occur: transient elevated BUN or creatinine or both, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), hyperuricemia and gout, digitalis intoxication (in hypokalemia), decreasing alkali reserve with possible metabolic acidosis. Dyazide interferes with fluorescent measurement of quinidine.

Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth, anaphylaxis, rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting, diarrhea, constipation, other gastrointestinal disturbances. Necrotizing vasculitis, paresthesias, icterus, pancreatitis, xanthopsia and, rarely, allergic pneumonitis have occurred with thiazides alone.

Supplied: Bottles of 100 and 1000 capsules, Single Unit Packages of 100 (intended for institutional use only).

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dicyclomine hydrochloride USP)

10 mg. capsules, 20 mg. tablets,
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helps control abnormal motor activity
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demonstrated smooth muscle relaxant activity.

In this double-blind study, twenty patients having G.I. series and exhibiting
spasm were randomly selected to receive either 2 cc. of Bentyl or sodium
chloride intramuscularly. Ten minutes after the injection another radiograph
was taken . . .

Bentyl produced definite relaxation in 8 of 10 patients. The sodium chloride
produced relaxation in only 3 of 10. No side effects occurred in either group of patients.



Barospasm has
almost totally blocked
passage of barium
meal.



Barium meal beginning
to pass 10 minutes
after intramuscular
injection of 20 mg. Bentyl.

"The correlation of spasm relief and drug given was excellent."

This drug has been classified "probably" effective in treating
certain functional G.I. disorders.

See Warnings, Precautions and Adverse Reactions.

See following page for prescribing information.

Reference:

King, J.C. and Starkman, N.M.: Evaluation of an antispasmodic.
Double-blind evaluation to control gastrointestinal spasms
occurring during radiographic examination. A preliminary report.
Western Med. 5:356-358, 1964.

Merrell

Bentyl (dicyclomine hydrochloride USP)

Capsules, Tablets, Syrup, Injection
AVAILABLE ONLY ON PRESCRIPTION.

Brief Summary INDICATIONS

For use as adjunctive therapy in the treatment of peptic ulcer. IT SHOULD BE NOTED AT THIS POINT IN TIME THAT THERE IS A LACK OF CONCURRENCE AS TO THE VALUE OF ANTICHLINERGIC/ANTISPASMODICS IN THE TREATMENT OF GASTRIC ULCER. IT HAS NOT BEEN SHOWN CONCLUSIVELY WHETHER ANTICHLINERGIC/ANTISPASMODIC DRUGS AID IN THE HEALING OF A PEPTIC ULCER, DECREASE THE RATE OF RECURRENCES, OR PREVENT COMPLICATION.

Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FDA has classified the following indications as "probably" effective.

May also be useful in the irritable bowel syndrome (irritable colon, spastic colon, mucous colitis, acute enterocolitis, and functional gastrointestinal disorders), and in neurogenic bowel disturbances (including the splenic flexure syndrome and neurogenic colon).

THESE FUNCTIONAL DISORDERS ARE OFTEN RELIEVED BY VARYING COMBINATIONS OF SEDATIVE, REASSURANCE, PHYSICIAN INTEREST, AMELIORATION OF ENVIRONMENTAL FACTORS.

For use in the treatment of infant colic (Syrup)

Final classification of the less-than-effective indications requires further investigation.

CONTRAINDICATIONS: Obstructive uropathy (for example, bladder neck obstruction due to prostatic hypertrophy), obstructive disease of the gastrointestinal tract (as in achalasia, pyloroduodenal stenosis), paralytic ileus, intestinal atony of the elderly or debilitated patient, unstable cardiovascular status in acute hemorrhage, severe ulcerative colitis, toxic megacolon complicating ulcerative colitis, myasthenia gravis. **WARNINGS:** In the presence of a high environmental temperature, heat prostration can occur with drug use (fever and heat stroke due to decreased sweating). Diarrhea may be an early symptom of incomplete intestinal obstruction, especially in patients with ileostomy or colostomy. In this instance treatment with this drug would be inappropriate and possibly harmful. Bentyl may produce drowsiness or blurred vision. In this event, the patient should be warned not to engage in activities requiring mental alertness such as operating a motor vehicle or other machinery or perform hazardous work while taking this drug. **PRECAUTIONS:** Although studies have failed to demonstrate adverse effects of dicyclomine hydrochloride in glaucoma or in patients with prostatic hypertrophy, it should be prescribed with caution in patients known to have or suspected of having glaucoma or prostatic hypertrophy. Use with caution in patients with autonomic neuropathy, hepatic or renal disease, ulcerative colitis—Large doses may suppress intestinal motility to the point of producing a paralytic ileus and the use of this drug may precipitate or aggravate the serious complication of toxic megacolon, hyperthyroidism, coronary heart disease, congestive heart failure, cardiac arrhythmias, and hypertension. hiatal hernia associated with reflux esophagitis since anticholinergic drugs may aggravate this condition.

It should be noted that the use of anticholinergic/antispasmodic drugs in the treatment of gastric ulcer may produce a delay in gastric emptying time and may complicate such therapy (antral stasis). Do not rely on the use of the drug in the presence of complication of biliary tract disease. Investigate any tachycardia before giving anticholinergic (atropine-like) drugs since they may increase the heart rate. With overdosage, a curare-like action may occur. **ADVERSE REACTIONS:** Anticholinergics/antispasmodics produce certain effects which may be physiologic or toxic depending upon the individual patient's response. The physician must delineate these. Adverse reactions may include xerostomia, urinary hesitancy and retention, blurred vision and tachycardia, palpitations, mydriasis, cycloplegia, increased ocular tension, loss of taste, headache, nervousness, drowsiness, weakness, dizziness, insomnia, nausea, vomiting, impotence, suppression of lactation, constipation, bloated feeling, severe allergic reaction or drug idiosyncrasies including anaphylaxis, urticaria and other dermal manifestations, some degree of mental confusion and/or excitement, especially in elderly persons, and decreased sweating. With the injectable form there may be a temporary sensation of lightheadedness and occasionally local irritation. **DOSAGE AND ADMINISTRATION:** Dosage must be adjusted to individual patient's needs.

Usual Dosage: Bentyl 10 mg capsule and syrup. Adults: 1 or 2 capsules or teaspoonfuls syrup three or four times daily. Children: 1 capsule or teaspoonful syrup three or four times daily. Infants: 1/2 teaspoonful syrup three or four times daily. (May be diluted with equal volume of water.) Bentyl 20 mg. Adults: 1 tablet three or four times daily. Bentyl Injection: Adults: 2 ml (20 mg) every four to six hours intramuscularly only. NOT FOR INTRAVENOUS USE. **MANAGEMENT OF OVERDOSE:** The signs and symptoms of overdose are headache, nausea, vomiting, blurred vision, dilated pupils, hot, dry skin, dizziness, dryness of the mouth, difficulty in swallowing, CNS stimulation. Treatment should consist of gastric lavage, emetics, and activated charcoal. Barbiturates may be used either orally or intramuscularly for sedation but they should not be used if Bentyl with Phenobarbital has been ingested. If indicated, parenteral cholinergic agents such as Urecholine® (bethanechol chloride USP) should be used.

Product Information as of October, 1976

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Club members contributed \$19,500. The year amount had grown to \$201,868 by the end of fiscal year 1977-78 which brought the overall total to \$931,858.

Contributions during the first quarter of this fiscal year were up 78% over the same period last year.

Recently, Dr. Robert Machemer became the 277th Davison Club member, and his contribution was the one that sent the total past the \$1 million mark.

Machemer joined the medical center faculty Sept. as professor and chairman of the Department of Ophthalmology.

* * *

The medical center's Distinguished Alumni Award and the Medical Alumni Association's Distinguished Teaching Awards were presented during Medical Alumni Weekend in November.

Recipients of the alumni awards were Dr. Robert Purcell of the National Institute of Allergy and Infectious Diseases (NIAID) in Bethesda, Md., and Dr. A. Jack Tannenbaum of Greensboro.

The teaching awards went to Dr. J. Lam Callaway, professor of dermatology at Duke, and Dr. Clarence E. Gardner Jr., emeritus professor of surgery.

* * *

Nine faculty members in the School of Medicine have been promoted.

New associate professors and their departments are: Drs. Richard H. Daffner, radiology; Gale B. Hibbs, obstetrics and gynecology; Jeffrey L. Houpt, psychiatry; Charles F. Lanning and John N. Miller, anesthesiology; and Gerald L. Logue, medicine.

Those promoted to assistant professor and the departments are: Drs. G. Allan Johnson, radiology; James T. Moore, psychiatry, community and family medicine; and Joseph M. Strayhorn, Jr., psychiatry.

* * *

Seven new faculty members have been appointed to the School of Medicine.

Dr. John C. Weed Jr., has been named associate professor of obstetrics and gynecology.

New assistant professor in the departments included are: Drs. Peter C. English and Thomas R. Kennedy, pediatrics; Dr. Raymond E. Ideker, pathology and medicine; Katherine A. Munning, community and family medicine; and Drs. S. Clifford Schold Jr. and Joe B. Weinberg, medicine.

News Notes from the—

EAST CAROLINA UNIVERSITY SCHOOL OF MEDICINE

Dr. George J. Kasperek, an associate professor of biochemistry at Connecticut College, New London, Conn., is spending a one-year sabbatical at the EC

chool of Medicine collaborating with Dr. Lynis
om, professor of biochemistry.

he two investigators are studying the breakdown
f protein in muscles during exercise. Kasperek is
ocusing specifically with enzymes called proteases
h cause the breakdown of proteins.

Connecticut, Kasperek's research focuses on the
a enzymes work to catalyze reactions in the human
oy.

Kasperek received his undergraduate degree from
akato College and his Ph.D. at Oregon State Uni-
ersity.

* * *

over 200 professionals attended a symposium,
"The Vulnerable Child," sponsored by the ECU
chool of Medicine in November at Pitt County Me-
morial Hospital. Conducted by the Department of
iatrics, the conference provided an overview of
problems in child abuse and neglect.

Participating in the presentations were Dr. Jon B.
L. relstad, professor and chairman of the depart-
ment; Dr. Robert P. Dillard, assistant professor of
iatrics; Dr. Arthur E. Kopelman, associate profes-
sor of pediatrics; Dr. Loretta M. Kopelman, associate
professor of pediatrics and philosophy; Mary
e nan, Pitt County Department of Social Services;

Dr. James R. Markello, professor of pediatrics; and
Dr. James L. Mathis, professor and chairman of psy-
chiatry.

* * *

The ECU School of Medicine, in cooperation with
the National Health Service Corps, is developing an
Office of Health Education designed to provide infor-
mation and planned educational programs to commu-
nity health centers in 29 counties in eastern North
Carolina.

The office will act as a liaison between the School of
Medicine, county health departments and rural clinics
and will provide the agencies with resources and guid-
ance in the development of community education
programs. It will also serve as an information and
consultation service for patient and health education
programs.

Walter Shepherd, assistant to the dean, will direct
the activities of the office.

* * *

The Neonatal Intensive Care Unit at Pitt County
Memorial Hospital is in its early stage of development
with nearly a third of its 33 beds opened.

Operated by the Department of Pediatrics, the unit
has been providing care for eight to 10 babies since its

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are problems
and there
is drinking...
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opening six months ago. Only the intensive care section of the nursery is being used, with additional beds scheduled to open as the staff of physicians and nurses grows.

Currently, there are 16 nurses in the unit, but the staff will include 70 nurses and three neonatologists when all of the unit's 12 intensive care and 21 intermediate care beds are opened. The unit is expected to be fully staffed in 12 to 18 months.

Support areas in the nursery include a research lab, chemistry lab, library, conference room, administrative offices and a special emergency entrance. For parents there is a sitting room-bedroom combination designed so mothers can gain experience in caring for their infants before discharge.

The neonatal unit will serve 29 counties in eastern North Carolina, a region with an infant mortality rate twice as high as the national average. A specially equipped neonatal intensive care van will be used for transporting newborns to the unit in Greenville.

As the unit's capacity for transfer and referral of patients increases, appropriate physicians will be notified.

* * *

Construction has started on the 15,090-square-foot building that will serve as the central area for animal care at the medical school. The animal facility, located on the health campus adjacent to Pitt County Memorial Hospital, will make available needed research space to ECU clinical faculty at the hospital.

The new facility will include 13 animal rooms, an operating suite, an infectious and isotope isolation area and three faculty project labs for extended research. A building for large animals and a grazing lot will be located beside the facility.

A veterinarian is being recruited to serve as chairman of the Department of Comparative Medicine.

Construction is also progressing on the utility plant which will house heating and cooling units, electrical equipment and a radioactive storage area. The plant and the animal facility, scheduled for occupancy in the fall of 1979, will be the first buildings to open on the 40-acre health campus site.

The Medical Science Building, which will include teaching and research facilities for all departments, the school's administrative offices and library, and the ambulatory care center, has been advertised for bid prior to initiating construction in early 1979.

News Notes from the—

BOWMAN GRAY SCHOOL OF MEDICINE WAKE FOREST UNIVERSITY

A vascular laboratory, to aid in uncovering vessel diseases in the arms and legs, has been opened at the Bowman Gray School of Medicine.

The laboratory, in the Department of Surgery, relies on blood pressure and blood flow volume measurements to diagnose such problems as spastic arteriole blood clots and malformations of blood vessels. It is especially useful in separating those problems from vessels blocked because of atherosclerosis.

Measurements taken in the laboratory can help determine whether surgery to bypass an obstruction in an arm or leg vessel has been successful in restoring circulation. In cases where amputation is inevitable because of severely restricted circulation, the vascular laboratory can help surgeons accurately determine where the amputation should take place without taking more of a limb than is necessary.

Because the laboratory uses only different sizes of the familiar blood pressure cuff as well as safe levels of ultrasound, its measurements can be taken without harm to patients and can be done on an outpatient basis.

A sophisticated pulse volume recorder is used in making the measurements. A treadmill in the laboratory permits measurements to be made while the patient is exercising.

* * *

Dr. Kevin Rudeen, an instructor in anatomy at the Bowman Gray School of Medicine, is involved in a research project involving sex, alcohol and the brain's still mysterious pineal gland.

His work is supported by a one-year, \$17,722 grant from the North Carolina Alcoholism Research Authority.

Working at the level of hormones and enzymes, Dr. Rudeen is interested both in how alcohol inhibits the reproductive system and how the pineal gland may influence a person's preference for alcohol.

Alcohol, especially in chronic alcoholic men, can cause a certain degree of feminization, including a normal development of breast tissue, impotence and sterility. There also is evidence that the pineal gland produces hormones that cause a reduction in sperm production.

Because of work with animal models, researchers now have good reason to believe that the pineal gland also regulates preference for alcohol and has a role in regulating alcohol's effects on the reproductive system.

* * *

Six new trustees of North Carolina Baptist Hospital have been elected by the Baptist State Convention of North Carolina. Baptist Hospital is Bowman Gray principal teaching hospital.

Dr. Ernest Stines of Canton, Dr. Charles P. Nicholson of Morehead City and Grover E. Howell of Winston-Salem have previously served four-year terms on the board. The remaining three trustees elected to the board are Dr. Rollin Burhans of Durham, Hampton Beamer of Mount Airy and Mrs. Hugh Queen Hamlet.

* * *

Harry Little, a third-year medical student at Bowman Gray School of Medicine, is the recipient of a research grant from the Bowman Gray School of Medicine.

Gray, has received a CIBA Award for outstanding community service. The award consisted of the eight volume "CIBA Collection of Netter Illustrations."

Little has been an advisor to the Medical Explorer Scout Troop at Bowman Gray and has worked as a volunteer in the Mount Airy Health Department.

The award winner at Bowman Gray is chosen by the recipient's classmates and the associate dean for student affairs.

* * *

Four Bowman Gray faculty members have been elected to offices in the Forsyth County Medical Society.

Dr. Henry W. Johnson, clinical associate professor of pediatrics, is the society's president. Dr. Robert W. Richard, professor and chairman of the Department of Pathology, is the president-elect. Dr. Walter M. Ruffail, clinical assistant professor of medicine, is secretary; and Dr. Joyce H. Reynolds, clinical instructor in surgery, is treasurer.

* * *

Dr. Robert J. Cowan, associate professor of radiology, has been installed as president of the Southeastern Chapter of the Society of Nuclear Medicine for 198-79. Marsha Baggett, clinical coordinator of radiology services at Baptist Hospital, was installed as president of the technologists section of the chapter.

* * *

Dr. Courtland H. Davis Jr., professor of neurosurgery, has been elected a member of the North Carolina Medical Review Committee.

* * *

Dr. Robert A. Diseker, associate professor of community medicine, has been elected to the Board of Directors of the Association of Teachers of Preventive Medicine (ATPM) for a two-year term. He also has been appointed to an ATPM task force on "Research in Preventive Medicine."

* * *

Mrs. Harriett Faulkner, director of Bowman Gray's Office of Minority Affairs, has been appointed national program chairman for the National Association of Minority Medical Educators.

* * *

Warren H. Kennedy, associate dean for administration, was presented a plaque for his distinguished service as national chairman of the Group on Business Affairs at the 86th annual meeting of the Association of American Medical Colleges.

* * *

Dr. Frederick W. Kremkau, research assistant professor of medicine, has been appointed vice chair-

man of the Biological Effects Committee and elected to the Board of Governors of the American Institute of Ultrasound in Medicine.

* * *

George Lynch, director of the Department of Audio-Visual Resources, has been re-elected treasurer of the Association of Medical Illustrators.

* * *

Dr. Henry S. Miller Jr., professor of medicine, has been elected vice president of the American Heart Association. He also was elected chairman of the Mid-Atlantic Regional Heart Committee.

* * *

Dr. Richard B. Patterson, professor of pediatrics, was presented an award for his service as chairman of the Childhood Cancer Committee at the annual meeting of the North Carolina Chapter, American Cancer Society.

* * *

Dr. George Podgorny, clinical associate professor of surgery, has been elected chairman of the Section on Emergency Medicine at the 72nd annual Scientific Assembly of the Southern Medical Association.

* * *

Dr. Robert B. Taylor, associate professor of family and community medicine, has been appointed to the editorial board of *LAB World* magazine.



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Month In Washington

Stringent controls and across-the-board budget cuts will be the order of the day for the coming 96th Congress. President Carter has announced that his anti-inflation program will be the top domestic priority and such sentiment appears to be widespread among returning members.

The Administration's initial thrust in the health area will be its demand for the hospital cost containment program that was blocked in the last Congress. In addition, it is expected that the President's chief selling point for his brand of national health insurance (NHI) will be its alleged ability to hold down inflation in the health care sector.

In an important policy address before the National Press Club, Joseph A. Califano, Secretary of the Health, Education and Welfare Department, warned that if liberals want federal social programs to survive, they must concentrate on better management of those programs rather than on their expansion.

"It was the challenge of liberalism in the '60s to enact long-delayed and much-needed social programs," Califano said. "It is the challenge for liberalism in the '70s to manage these programs well."

"As we come to the close of the Seventies, the challenge for the American liberal is the challenge of austerity," Califano said.

There is a management revolution under way in Washington, the HEW Secretary said, an "effort to make compassionate programs work efficiently."

He said it is essential for liberals to recognize that times have changed, that "the self-confidence of the '60s has been replaced by a mood of caution, wariness, and skepticism."

Califano didn't say where the economic ax will fall at HEW except to note some long-standing targets such as impacted federal aid for schools and the hospital cost containment plan. Of the latter, he said House Speaker Thomas O'Neill (D-Mass.) has

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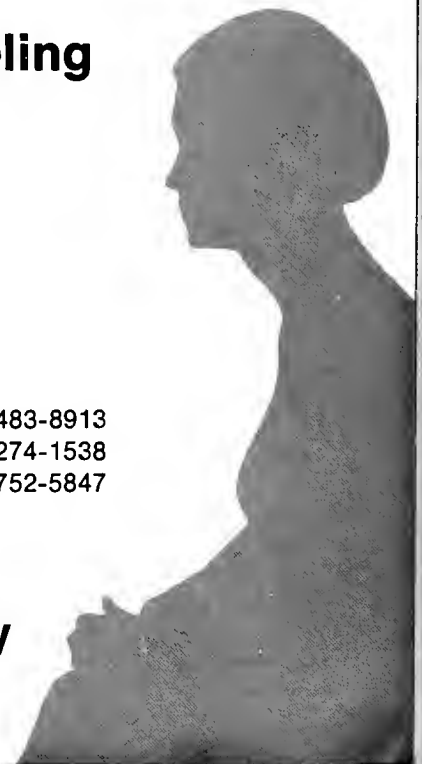
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founded in 1903



promised early House action next year. "We will have that legislation through next year," he said.

* * *

While Secretary Califano and the Administration appear to be unalterably opposed to private sector voluntary efforts to reduce inflation and adamantly in favor of mandatory wage and price guidelines for the health sector only — via hospital cost containment and NHI — other views are being expressed in Washington.

A Washington symposium of national business and health leaders, during a briefing of how voluntary cost containment is working in hospitals and among physicians, heard AMA Executive Vice-President James I. Sammons, M.D., urge the federal government not to interfere and "play games with the nation's health."

Speaking at a think-tank session in Washington, D.C., sponsored by Arthur D. Little, Inc., Dr. Sammons said to some extent the problems currently facing the health care industry have made providers victims of our own success." He pointed to the highest quality of care in the world in this country and the rapid explosion of medical technology since World War II.

Health care is going to be expensive and the question must be asked whether benefits can be expanded

without costing more money, said the AMA official. Much talk has been bruited about the percentage of health in relation to the Gross National Product.

"Is 8.6% too much or too little? What is an intelligent yardstick?"

He suggested that medical people make medical decisions, such as who qualifies for renal dialysis. "Let's be sure we know what we're doing when we do it."

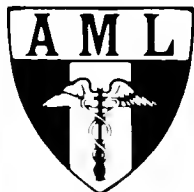
Dr. Sammons said the voluntary effort is succeeding on several fronts and that prospects for the future look good and "America's physicians are playing a leading role in our society's quest to keep medical costs within reason."

He noted "the dimensions . . . and the dangers . . . of certain governmental proposals to slap arbitrary and ill-considered cost ceilings on our medical system."

"Most people, including most people in government, realize that when it comes to fashioning enlightened and enduring answers to complex problems the private way is by far the better way."

Paul W. Earle, executive director of the voluntary effort, said VE is a unique national coalition formed by physicians and hospitals to voluntarily contain health care costs.

It marks the "first time we have done it in the



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industry on a coalition basis." Often the groups "fight among themselves but we are now joining together on major tasks."

Earle said this is the "only industry that has responded with a massive, nationwide effort to President Carter's call for voluntary restraint — ironic inasmuch as the Administration has called for voluntary restraint but is pushing for wage and price controls for hospitals."

The National Steering Committee is led by the AMA, American Hospital Association and the Federation of American Hospitals.

"And we are getting results any way you measure it, Earle said, noting the following "rate of increase" statistics:

1976	19.1%
1977	15.6
1st half of 1978	12.8

"Industry is doing the job, demonstrating its responsibility and we don't need the federal government telling us what to do," he asserted.

Dr. Sammons noted that the rate of increase in hospital expenditures through the first seven months of 1978 was 12.8%, well below the 1977 rate of 15.6% and the lowest since 1974 when federal wage and price controls were ended.

Dr. Sammons estimated that voluntary effort has saved \$900 million in hospital costs in the fiscal year ending in September, 1978. He further estimated that it will save \$44 billion by the end of 1983.

* * *

Government health planners are considering a "productivity standards" system to examine the efficiency of physicians and hospitals.

HEW Secretary Califano said such standards could cut unnecessary surgery, make better use of expensive machinery and shorten hospital stays.

"I recognize that we must proceed with great care in attempting to set standards regarding health care productivity," he said. Any such move should not infringe on physicians' relationships with patients, he said. The National Health Planning Council was asked to begin "careful consideration of the issues raised by productivity standards."

Califano did not go into detail about minimum productivity standards in a speech at the annual meeting of the Institute of Medicine, a branch of the National Academy of Sciences.

"A concern with productivity presumes a strong doctor-patient relationship characterized by human caring," he said, noting that physicians, economists, professional standards groups, hospitals, nursing homes and other medical facilities would contribute to the set of standards.

With the "moonshot age" of complex medical technology and refined special skills have come the problems of unnecessary medical procedures and a proliferation of facilities which are under-utilized, said Califano.

He noted that in 1975 there were more than three hospital workers per patient in this country while the

BRIEF SUMMARY OF PRESCRIBING INFORMATION

ANTIMINTH® (pyrantel pamoate)

ORAL SUSPENSION

Actions. Antiminth (pyrantel pamoate) has demonstrated anthelmintic activity against *Enterobius vermicularis* (pinworm) and *Ascaris lumbricoides* (roundworm). The anthelmintic action is probably due to the neuromuscular blocking property of the drug.

Antiminth is partially absorbed after an oral dose. Plasma levels of unchanged drug are low. Peak levels (0.05-0.13 µg/ml) are reached in 1-3 hours. Quantities greater than 50% of administered drug are excreted in feces as the unchanged form, whereas only 7% or less of the dose is found in urine as the unchanged form of the drug and its metabolites.

Indications. For the treatment of ascariasis (roundworm infection) and enterobiasis (pinworm infection).

Warnings. *Usage in Pregnancy:* Reproduction studies have been performed in animals and there was no evidence of propensity for harm to the fetus. The relevance to the human is not known.

There is no experience in pregnant women who have received this drug.

The drug has not been extensively studied in children under two years; therefore, in the treatment of children under the age of two years, the relative benefit/risk should be considered.

Precautions: Minor transient elevations of SGOT have occurred in a small percentage of patients. Therefore, this drug should be used with caution in patients with preexisting liver dysfunction.

Adverse Reactions. The most frequently encountered adverse reactions are related to the gastrointestinal system.

Gastrointestinal and hepatic reactions: anorexia, nausea, vomiting, gastralgia, abdominal cramps, diarrhea and tenesmus, transient elevation of SGOT.

CNS reactions: headache, dizziness, drowsiness, and insomnia. Skin reactions: rashes.

Dosage and Administration. *Children and Adults:* Antiminth Oral Suspension (50 mg of pyrantel base/ml) should be administered in a single dose of 11 mg of pyrantel base per kg of body weight (or 5 mg/lb.); maximum total dose 1 gram. This corresponds to a simplified dosage regimen of 1 ml of Antiminth per 10 lb. of body weight. (One teaspoonful=5 ml.)

Antiminth (pyrantel pamoate) Oral Suspension may be administered without regard to ingestion of food or time of day, and purging is not necessary prior to, during, or after therapy. It may be taken with milk or fruit juices.

How Supplied. Antiminth Oral Suspension is available as a pleasant tasting caramel-flavored suspension which contains the equivalent of 50 mg pyrantel base per ml, supplied in 60 ml bottles and Unitcups™ of 5 ml in packages of 12.

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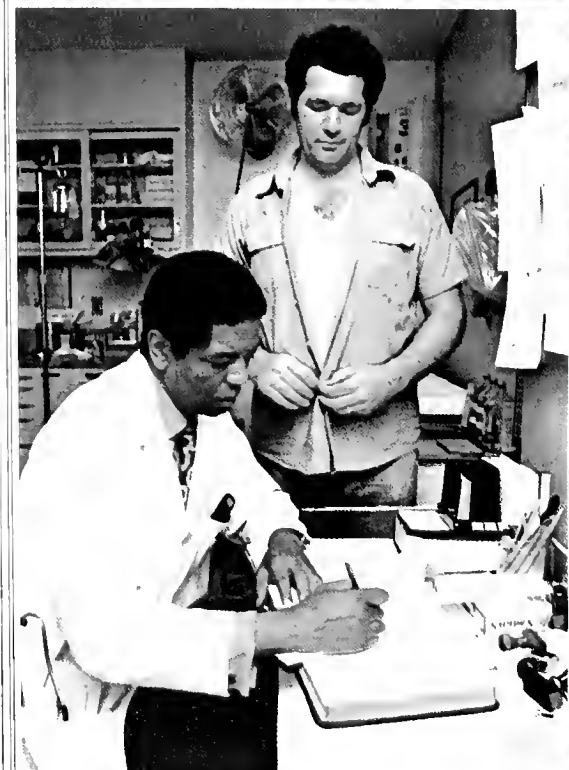
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a drug of choice in
pinworm infections

Please see brief summary of prescribing information on facing page

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The evidence of experience

Since October 1974 when Motrin® (ibuprofen) was introduced in the United States, it has been used by more than 6,000,000 patients with rheumatoid arthritis* or osteoarthritis. Rarely has an ethical pharmaceutical product been prescribed for so many patients in so short a time. In addition, more than 450 studies presenting new data related to Motrin have been published.

The 6,000,000 patients already treated with Motrin is an objective measure of physicians' confidence in the ability of Motrin to relieve the pain and inflammation associated with rheumatoid arthritis and osteoarthritis.

So it is not surprising that in this short period Motrin has become the most frequently prescribed alternative to aspirin. Motrin relieves joint pain and inflammation as effectively as indomethacin or aspirin, but causes significantly fewer CNS and milder GI reactions.

However, gastrointestinal bleeding, sometimes severe, has been associated with Motrin, aspirin, indomethacin, and other nonsteroidal antiarthritic agents.

*The safety and effectiveness of Motrin have not been established in patients with Functional Class IV rheumatoid arthritis (incapacitated, largely or wholly bedridden, or confined to wheelchair; little or no self-care).



Motrin⁴⁰⁰mg TABLETS ibuprofen, Upjohn

The confidence that comes from experience—
one more reason to prescribe Motrin.

Please turn page for a brief summary of prescribing information.

Upjohn

The Upjohn Company, Kalamazoo, Michigan 49001

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one more reason to prescribe

Motrin 400mg TABLETS

ibuprofen, Upjohn

Indications and Usage: Treatment of signs and symptoms of rheumatoid arthritis and osteoarthritis during acute flares and in long-term management. Safety and efficacy have not been established in Functional Class IV rheumatoid arthritis.

Contraindications: Individuals hypersensitive to it, or with the syndrome of nasal polyps, angioedema and bronchospastic reactivity to aspirin or other nonsteroidal anti-inflammatory agents (see WARNINGS).

Warnings: Anaphylactoid reactions have occurred in patients with aspirin hypersensitivity (see CONTRAINDICATIONS).

Peptic ulceration and gastrointestinal bleeding, sometimes severe, have been reported. Ulceration, perforation, and bleeding may end fatally. An association has not been established. Motrin should be given under close supervision to patients with a history of upper gastrointestinal tract disease, only after consulting ADVERSE REACTIONS.

In patients with active peptic ulcer and active rheumatoid arthritis, nonulcerogenic drugs, such as gold, should be tried. If Motrin must be given, the patient should be under close supervision for signs of ulcer perforation or gastrointestinal bleeding.

Precautions: Blurred and/or diminished vision, scotomata, and/or changes in color vision have been reported. If these develop, discontinue Motrin and the patient should have an ophthalmologic examination, including central visual fields.

Fluid retention and edema have been associated with Motrin; use with caution in patients with a history of cardiac decompensation.

Motrin can inhibit platelet aggregation and prolong bleeding time. Use with caution in persons with intrinsic coagulation defects and those on anticoagulant therapy.

Patients should report signs or symptoms of gastrointestinal ulceration or bleeding, blurred vision or other eye symptoms, skin rash, weight gain, or edema.

To avoid exacerbation of disease or adrenal insufficiency, patients on prolonged corticosteroid therapy should have therapy tapered slowly when Motrin is added.

Drug interactions. Aspirin used concomitantly may decrease Motrin blood levels.

Coumarin: Bleeding has been reported in patients taking Motrin and coumarin.

Pregnancy and nursing mothers: Motrin should not be taken during pregnancy or by nursing mothers.

Adverse Reactions

Incidence greater than 1%

Gastrointestinal: The most frequent type of adverse reaction occurring with Motrin (ibuprofen) is gastrointestinal (4% to 16%). This includes nausea*, epigastric pain*, heartburn*, diarrhea, abdominal distress, nausea and vomiting, indigestion, constipation, abdominal cramps or pain, fullness of the GI tract (bloating and flatulence). **Central Nervous System:** Dizziness*, headache, nervousness. **Dermatologic:** Rash* (including maculopapular type), pruritus. **Special Senses:** Tinnitus. **Melabolic:** Decreased appetite, edema, fluid retention. Fluid retention generally responds promptly to drug discontinuation (see PRECAUTIONS).

Incidence: Unmarked 1% to 3%; *3% to 9%.

Incidence less than 1 in 100

Gastrointestinal: Upper GI ulcer with bleeding and/or perforation, hemorrhage, melena. **Central Nervous System:** Depression, insomnia. **Dermatologic:** Vesiculobullous eruptions, urticaria, erythema multiforme. **Cardiovascular:** Congestive heart failure in patients with marginal cardiac function, elevated blood pressure. **Special Senses:** Amblyopia (see PRECAUTIONS). **Hematologic:** Leukopenia, decreased hemoglobin and hematocrit.

Causal relationship unknown

Gastrointestinal: Hepatitis, jaundice, abnormal liver function. **Central Nervous System:** Paresthesias, hallucinations, dream abnormalities. **Dermatologic:** Alopecia, Stevens-Johnson syndrome. **Special Senses:** Conjunctivitis, diplopia, optic neuritis. **Hematologic:** Hemolytic anemia, thrombocytopenia, granulocytopenia, bleeding episodes. **Allergic:** Fever, serum sickness, lupus erythematosus syndrome. **Endocrine:** Gynecomastia, hypoglycemia. **Cardiovascular:** Arrhythmias. **Renal:** Decreased creatinine clearance, polyuria, azotemia.

Overdosage: In cases of acute overdosage, the stomach should be emptied. The drug is acidic and excreted in the urine, so alkaline diuresis may be beneficial.

Dosage and Administration: Suggested dosage is 300 or 400 mg t.i.d. or q.i.d. Do not exceed 2400 mg per day.

How Supplied

Motrin Tablets, 300 mg (white)

Bottles of 60 NDC 0009-0733-01

Bottles of 500 NDC 0009-0733-02

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Bottles of 500 NDC 0009-0750-02

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in West Germany was one-to-one and two-to-one in Great Britain.

According to the Secretary, nurse practitioners and physician assistants "could handle more than 50% of patient visits for primary care problems more economically — at least in certain settings — than doctors."

* * *

A broad-based coalition of health and environmental groups aimed at disease prevention was proposed by Rep. Paul Rogers (D-Fla.) who declared he's convinced the coalition will perform a valuable role in informing the public.

The tentatively-titled National Coalition for Disease Prevention and Environmental Health held its strategy and organizational meeting in Washington, D.C., with 30 groups forming an organizing committee. Rogers told representatives of these and other groups that he intended to play an active role in supporting the Coalition, but he apparently will not head it. Rogers, retiring this year as head of the House Commerce Health Subcommittee, said he would announce his future private role shortly, but would serve the Coalition "for free."

Some 140 national groups have expressed an interest in joining the group, according to Rogers. The educational and information exchange functions of the Coalition will be critical, he said. The organized groups would survey food, the safety of consumer products, the purity of air and water, the safety of the workplace and strive for a "less stressful society."

* * *

The Health Maintenance Organization (HMO) program, one of the few major health bills of the last congressional session to secure enactment, has been signed into law by President Carter.

The measure, a prime goal of the Administration, provides a three-year extension, with certain amendments to the HMO proposals.

The bill authorizes \$31 million, \$65 million and \$68 million for the next three fiscal years.

The maximum amount of an initial development grant that can be made was increased from \$1 million to \$2 million beginning in fiscal year 1980.

The government can make loans and loan guarantees for the acquisition or construction of ambulatory health care facilities and for the acquisition of equipment. Loan guarantees to private HMOs can only be for projects that will serve medically underserved populations. The loans made or guaranteed for an ambulatory health care facility cannot be more than \$2 million.

An ambulatory health care facility was defined to be a health care facility for the provision of diagnostic, treatment and prevention services to ambulatory patients.

The bill provides that beginning four years after an HMO becomes qualified it may not enter into contracts with physicians other than members of the

HMO staff, medical groups, or individual practice associations if the amounts paid under these contracts for basic and supplemental health services provided by physicians exceed 15% of the total estimated amount to be paid by the HMO to physicians for the provision of basic and supplemental physician services. The percentage is increased to 30% if the HMO principally serves a rural area.

* * *

The AMA has announced that it will challenge and immediately appeal a ruling of a Federal Trade Commission Administrative Law Judge that charges the Association with restraining physician advertising and restraining physician participation in certain health delivery systems.

"The most shocking and pervasive attack on professionalism found in Judge Ernest G. Barnes' ruling is, 'Respondents (AMA) will be permitted to participate in setting ethical guidelines for the conduct of their members, after first obtaining the permission and approval of the FTC,'" said Robert B. Hunter, M.D., Chairman of the AMA Board of Trustees.

"We don't feel that lawyers, dentists, engineers, and other professionals, labor unions, business entities, charitable organizations, state and local governmental entities should have to ask the Federal Government if they can issue ethical guidelines to their members and what those guidelines should say.

"It has been clear throughout the entire proceeding that the AMA is clearly in favor of physician advertising and a free flow of public information about health care services," Hunter continued. "We are opposed to false and misleading advertising and its adverse impact on the quality of health care available to patients."

Testimony presented during FTC hearings on the advertising issue has shown that misleading advertising has led patients to inadequate and harmful treatment.

"The current abortion issue in Chicago acts as an excellent example of misleading advertising that the Association opposes."

Judge Barnes' ruling came in a case brought to the Commission three years ago against the AMA, the Connecticut State Medical Society and the New Haven County (Conn.) Medical Association. The FTC contended that the three organizations agreed to prevent or hinder physicians from advertising and engaging in competitive practices.

* * *

President Carter has vetoed legislation to extend federal aid for nurses' education for two years with a \$400 million authorization. The American Nurses Association said his action was "discriminatory" and "short-sighted."

The measure had passed the Senate by a unanimous voice vote and was approved by a 393-12 House tally. President Carter previously had vetoed a measure that

would have cut off nurses' education aid, but Congress later overrode the veto.

In a brief message, Carter said prospects are for sufficient nurses without the need for federal support. "At a time of urgent need for budget restraint we cannot tolerate spending for any but truly essential purposes," the President said.

* * *

A member of the Federal Trade Commission has said the Commission has uncovered a "litany of

abuses and of chicanery in the nursing home industry that is too large to ignore," and may propose a crackdown.

"Our preliminary investigation at the FTC revealed instances in which a nursing home was charging drug prices 24% higher than those charged by independent pharmacies," said Elizabeth Dole.

Mrs. Dole, wife of Senator Robert Dole (R-Kan.), told the 1978 Indiana Governor's Conference on Aging that the Commission is considering issuing a trade regulation rule for the industry to require, among other things, exact disclosures of prices and service

In Memoriam

EUGENE A. HARGROVE, M.D.

Eugene A. Hargrove was one of a series of distinguished medical leaders in the history of psychiatry in North Carolina. He was a past president of the North Carolina Neuropsychiatric Association.

Born a Texan, he came to UNC-Chapel Hill in 1954 to teach psychiatry in the newly formed four-year medical school and to direct the psychiatric outpatient clinic of the Department of Psychiatry under its first chairman, George C. Ham, M.D. In 1958 he succeeded Dr. James Murdock as general superintendent of the state hospitals and centers for the mentally retarded.

His leadership was preeminent during the inception of a unified state mental health authority in 1963 in the form of the State Board of Mental Health and the State Department of Mental Health. He was the state's first Commissioner of Mental Health in this consolidated state mental health agency.

He brought to the State Department of Mental Health personal strength and professional integrity that attracted an excellent and enviable central office staff. Benefiting from the strong political base established by The Honorable John Umstead and the high level professional leadership of Drs. David Young and James Murdock, Dr. Hargrove led the state's mental health movement through its years of greatest growth and modernization when community mental health began its reverberating impact on this country.

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Bactrim™ DS Double Strength Tablets

Each tablet contains 160 mg trimethoprim and 800 mg sulfamethoxazole.

Just one tablet b.i.d. for 10 to 14 days



- Action at urinary/vaginal/lower bowel sites helps eliminate reservoirs of infecting organisms
- Distinctive antibacterial action plus wide spectrum helps eradicate recurrent UTI
- Low incidence of bacterial resistance in community practice

- Convenient *b.i.d.* dosage provides day-and-night antibacterial control
- Contraindicated during pregnancy and the nursing period. During therapy, maintain adequate fluid intake; perform CBC's and urinalyses with microscopic examination.

Before prescribing, please consult complete product information, a summary of which follows:

Indications and Usage: For the treatment of urinary tract infections due to susceptible strains of the following organisms: *Escherichia coli*, *Klebsiella-Enterobacter*, *Proteus mirabilis*, *Proteus vulgaris*, *Proteus morganii*. It is recommended that initial episodes of uncomplicated urinary tract infections be treated with a single effective antibacterial agent rather than the combination. *Note:* The increasing frequency of resistant organisms limits the usefulness of all antibacterials, especially in these urinary tract infections.

Also for the treatment of documented *Pneumocystis carinii* pneumonitis. To date, this drug has been tested only in patients 9 months to 16 years of age who were immunosuppressed by cancer therapy.

The recommended quantitative disc susceptibility method (*Federal Register*, 37:20527-20529, 1972) may be used to estimate bacterial susceptibility to Bactrim. A laboratory report of "Susceptible to trimethoprim-sulfamethoxazole" indicates an infection likely to respond to Bactrim therapy. If infection is confined to the urine, "Intermediate susceptibility" also indicates a likely response. "Resistant" indicates that response is unlikely.

Contraindications: Hypersensitivity to trimethoprim or sulfonamides; pregnancy; nursing mothers; infants less than two months of age.

Warnings: Deaths from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias have been associated with sulfonamides. Experience with trimethoprim is much more limited but occasional interference with hematopoiesis has been reported as well as an increased incidence of thrombopenia with purpura in elderly patients on certain diuretics, primarily thiazides. Sore throat, fever, pallor, purpura or jaundice may be early signs of serious blood disorders. Frequent CBC's are recommended; therapy should be discontinued if a significantly reduced count of any formed blood element is noted.

Precautions: Use cautiously in patients with impaired renal or hepatic function, possible folate deficiency, severe allergy or bronchial asthma. In patients with glucose-6-phosphate dehydrogenase deficiency, hemolysis, frequently dose-related, may occur. During therapy, maintain adequate fluid intake and perform frequent urinalyses, with careful microscopic examination, and renal function tests, particularly where there is impaired renal function.

Adverse Reactions: All major reactions to sulfonamides and trimethoprim are included, even if not reported with Bactrim. **Blood dyscrasias:** Agranulocytosis, aplastic anemia, megaloblastic anemia, thrombopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia. **Allergic reactions:** Erythema multiforme, Stevens-Johnson syndrome, generalized skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis. **Gastrointestinal reactions:** Glossitis, stomatitis, nausea, emesis, abdominal pains, hepatitis, diarrhea and pancreatitis. **CNS reactions:** Headache,

peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo, insomnia, apathy, fatigue, muscle weakness and nervousness. **Miscellaneous reactions:** Drug fever, chills, toxic nephrosis with oliguria and anuria, periarteritis nodosa and L. E. phenomenon. Due to certain chemical similarities to some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia in patients; cross-sensitivity with these agents may exist. In rats, long-term therapy with sulfonamides has produced thyroid malignancies.

Dosage: Not recommended for infants less than two months of age.

Urinary Tract Infections: Usual adult dosage—1 DS tablet (double strength), 2 tablets (single strength) or 4 teasp. (20 ml) b.i.d. for 10-14 days.

Recommended dosage for children—8 mg/kg trimethoprim and 40 mg/kg sulfamethoxazole per 24 hours, in two divided doses for 10 days. A guide follows:

Children two months of age or older

Weight		Dose—every 12 hours	
lbs	kgs	Teaspoonfuls	Tablets
20	9	1 teasp. (5 ml)	½ tablet
40	18	2 teasp. (10 ml)	1 tablet
60	27	3 teasp. (15 ml)	1½ tablets
80	36	4 teasp. (20 ml)	2 tablets or 1 DS tablet

For patients with renal impairment:

Creatinine Clearance (ml/min)	Recommended Dosage Regimen
Above 30	Usual standard regimen
15-30	½ the usual regimen
Below 15	Use not recommended

***Pneumocystis carinii* pneumonitis:** Recommended dosage: 20 mg/kg trimethoprim and 100 mg/kg sulfamethoxazole per 24 hours in equal doses every 6 hours for 14 days. See complete product information for suggested children's dosage table.

Supplied: Double Strength (DS) tablets, each containing 160 mg trimethoprim and 800 mg sulfamethoxazole, bottles of 100; Tel-E-Dose® packages of 100. Tablets, each containing 80 mg trimethoprim and 400 mg sulfamethoxazole—bottles of 100 and 500; Tel-E-Dose® packages of 100; Prescription Paks of 40, available singly and in trays of 10. Oral suspension, containing in each teaspoonful (5 ml) the equivalent of 40 mg trimethoprim and 200 mg sulfamethoxazole, fruit-licorice flavored—bottles of 16 oz (1 pint).

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the Bactrim system counterattack



Bactrim has shown high clinical effectiveness in recurrent cystitis as a result of its wide spectrum and distinctive antimicrobial action in the urinary, vaginal and lower intestinal tracts.

The probability of recurrent urinary tract infection appears to be enhanced by the establishment of large numbers of *E. coli* or other urinary pathogens on the vaginal introitus. The trimethoprim component of

Bactrim diffuses into vaginal fluid in effective concentrations, thus combating migration of pathogens into the urethra.

Studies have shown that Bactrim acts against *Enterobacteriaceae* in the bowel without the emergence of resistant organisms. Thus, Bactrim reduces the risk of introital colonization by fecal uropathogens. It has no significant effect on other normal, necessary intestinal flora.

Bactrim fights uropathogens in the urinary tract/vaginal tract/lower intestinal tract

Please see reverse side for summary of product information.

NORTH CAROLINA

Medical Journal

The Official Journal of the NORTH CAROLINA MEDICAL SOCIETY □ □ □ February 1979, Vol. 40, No. 2

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Foreign Body Aspiration in Children — Recognition and Safe Management: Howard C. Filston, M.D.

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Contraindications: Patients with known hypersensitivity to the drug.

Warnings: Warn patients that mental and/or physical abilities required for tasks such as driving or operating machinery may be impaired, as may be mental alertness in children, and that concomitant use with alcohol or CNS depressants may have an additive effect. Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage, withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported.

Usage in Pregnancy: Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malforma-

tions as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.

Precautions: In the elderly and debilitated, and in children over six, limit to smallest effective dosage (initially 10 mg or less per day) to preclude ataxia or oversedation, increasing gradually as needed and tolerated. Not recommended in children under six. Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (e.g., excitement, stimulation and acute rage) have been reported in psychiatric patients and hyperactive aggressive children. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

Adverse Reactions: Drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally, making periodic blood counts and liver function tests advisable during protracted therapy.

Supplied: Librium® Capsules containing 5 mg, 10 mg or 25 mg chlordiazepoxide HCl. Libritabs Tablets containing 5 mg, 10 mg or 25 mg chlordiazepoxide.



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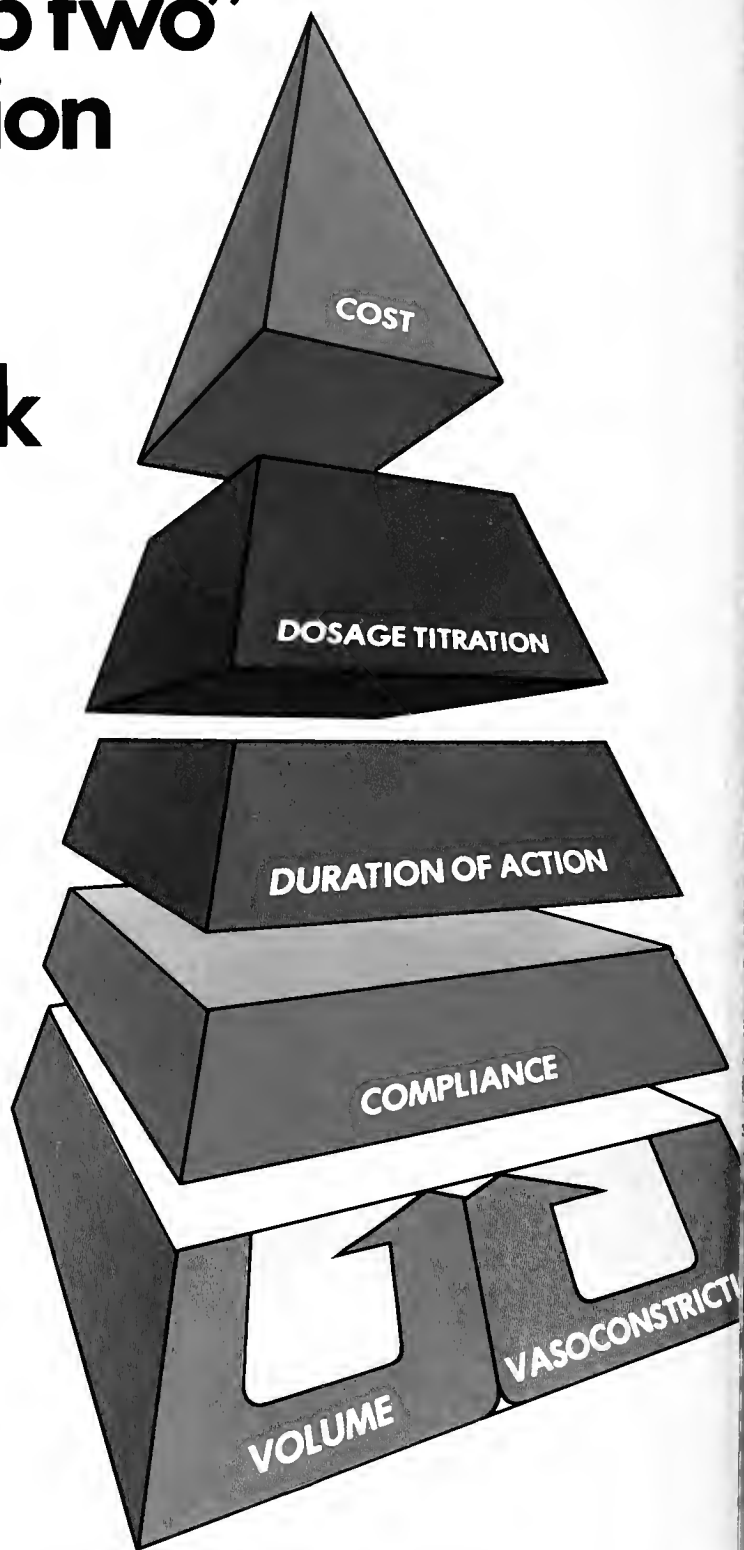
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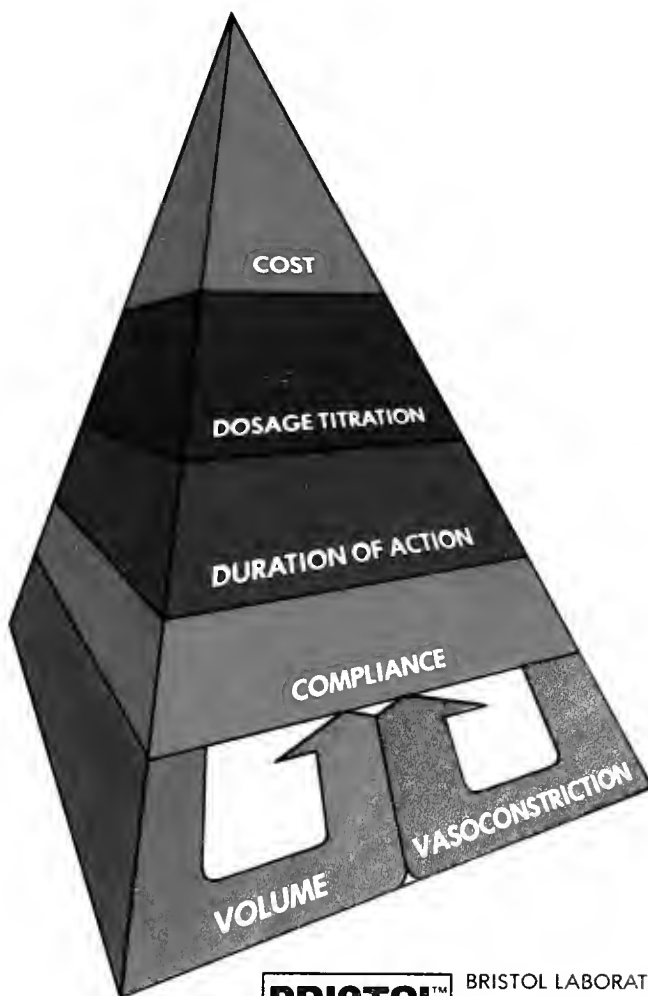
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References: 1. Finnerty, F.A. et al.: An Evaluation of Step Regimens in Hypertension, data on file, Bristol Laboratories, 1977. 2. Red Book 1977.

For a summary of prescribing information, please see following page.

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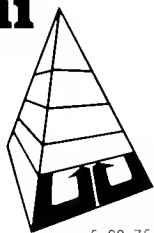
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CONTRAINDICATIONS: Patients with anuria, oliguria, or hypersensitivity to this or other sulfonamide derived drugs.

WARNINGS: Saluron should be used with caution in severe renal disease. In patients with renal disease, thiazides may precipitate azotemia. Cumulative effects of the drug may develop in patients with impaired renal function.

Thiazides should be used with caution in patients with impaired hepatic function or progressive liver disease, since minor alterations of fluid and electrolyte balance may precipitate hepatic coma. Thiazides may be additive or potentiative of the action of other antihypertensive drugs. Potentiation occurs with ganglionic or peripheral adrenergic blocking drugs. Sensitivity reactions may occur in patients with a history of allergy or bronchial asthma.

The possibility of exacerbation or activation of systemic lupus erythematosus has been reported.

Usage in pregnancy: Usage of thiazides in women of childbearing age requires that the potential benefits of the drug be weighed against its possible hazards to the fetus. These hazards include fetal or neonatal jaundice, thrombocytopenia, and possibly other adverse reactions which have occurred in the adult.

Nursing mothers: Thiazides cross the placental barrier and appear in cord blood and breast milk.

PRECAUTIONS: Periodic determination of serum electrolytes to detect possible electrolyte imbalance should be performed at appropriate intervals.

All patients receiving thiazide therapy should be observed for clinical signs of fluid or electrolyte imbalance, namely, hyponatremia, hypochloremic alkalosis, and hypokalemia. Serum and urine electrolyte determinations are particularly important when the patient is vomiting excessively or receiving parenteral fluids. Medication such as digitalis may also influence serum electrolytes. Warning signs, irrespective of cause, are: Dryness of mouth, thirst, weakness, lethargy, drowsiness, restlessness, muscle pains or cramps, muscular fatigue, hypotension, oliguria, tachycardia, and gastrointestinal disturbances such as nausea and vomiting.

Hypokalemia may develop with thiazides as with any other potent diuretic, especially with brisk diuresis, when severe cirrhosis is present, or during concomitant use of corticosteroids or ACTH.

Interference with adequate oral electrolyte intake will also contribute to hypokalemia. Digitalis therapy may exaggerate metabolic effects of hypokalemia especially with reference to myocardial activity.

Any chloride deficit is generally mild and usually does not require specific treatment except under extraordinary circumstances (as in liver disease or renal disease). Dilutional hyponatremia may occur in edematous patients in hot weather; appropriate therapy is water restriction, rather than administration of salt except in rare instances when the hyponatremia is life threatening. In actual salt depletion, appropriate replacement is the therapy of choice.

Hyperuricemia may occur or frank gout may be precipitated in certain patients receiving thiazide therapy.

Insulin requirements in diabetic patients may be increased, decreased or unchanged. Latent diabetes mellitus may become manifested during thiazide administration.

Thiazide drugs may increase the responsiveness to tubocurarine.

The antihypertensive effects of the drug may be enhanced in the postsympathectomy patient.

Thiazides may decrease arterial responsiveness to norepinephrine. This diminution is not sufficient to preclude effectiveness of the pressor agent for therapeutic use.

If progressive renal impairment becomes evident, as indicated by a rising nonprotein nitrogen or blood urea nitrogen, a careful reappraisal of therapy is necessary with consideration given to withholding or discontinuing diuretic therapy.

Thiazides may decrease serum PBI levels without signs of thyroid disturbance.

ADVERSE REACTIONS:

A. Gastrointestinal system reactions: Anorexia, gastric irritation, nausea,

vomiting, cramping, diarrhea, constipation, jaundice (intrahepatic cholestatic jaundice), pancreatitis.

B. Central nervous system reactions: Dizziness, vertigo, paresthesias, headache, xanthopsia.

C. Hematologic reactions: Leukopenia, agranulocytosis, thrombocytopenia, aplastic anemia.

D. Dermatologic-Hypersensitivity reactions: Purpura, photosensitivity, rash, urticaria, necrotizing angitis (vasculitis) (cutaneous vasculitis).

E. Cardiovascular reaction: Orthostatic hypotension may occur and may be aggravated by alcohol, barbiturates, or narcotics.

F. Other: Hyperglycemia, glycosuria, hyperuricemia, muscle spasm, weakness, restlessness.

Whenever adverse reactions are moderate or severe, thiazide dosage should be reduced or therapy withdrawn.

USUAL DOSE: The average adult diuretic dose is 25 to 200 mg. per day. The average adult antihypertensive dose is 50 to 100 mg. per day. Therapy should be individualized according to patient response. This therapy should be titrated to gain maximal therapeutic response as well as the minimal dose possible to maintain that therapeutic response.

HOW SUPPLIED: Saluron (hydroflumethiazide 50 mg.): Bottles of 100.

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(12) 10/27

(hydroflumethiazide, reserpine antihypertensive formulation)

For complete information consult Official Package Circular.

WARNING

This fixed combination drug is not indicated for initial therapy of hypertension. Hypertension requires therapy titrated to the individual patient. If the fixed combination represents the dosage so determined, its use may be more convenient in patient management. The treatment of hypertension is not static, but must be reevaluated as conditions in each patient warrant.

CONTRAINDICATIONS: Anuria, oliguria, active peptic ulceration, ulcerative colitis, severe depression or hypersensitivity to its components contraindicates the use of Salutensin.

WARNINGS: Small-bowel lesions (abstriction, hemorrhage, perforation and death) have occurred during therapy with enteric-coated formulation containing potassium, with or without thiazides. Such potassium formulations should be used with Salutensin only when indicated and should be discontinued immediately if abdominal pain, distention, nausea, vomiting or gastrointestinal bleeding occurs. Use cautiously, and only when deemed essential, in fertile, pregnant or lactating patients.

Use in pregnancy: Thiazides cross the placenta and can cause fetal or neonatal hyperbilirubinemia, thrombocytopenia, altered carbohydrate metabolism and possibly electrolyte disturbances. Fatal reactions may occur with reserpine during electroshock therapy; discontinue Salutensin 2 weeks before such therapy. Increased respiratory secretions, nasal congestion, cyanosis and anorexia may occur in infants born to reserpine-treated mothers.

PRECAUTIONS: Azotemia, hypochloremia, hyponatremia, hypochloremic alkalosis and hypokalemia (especially with hepatic cirrhosis and corticosteroid therapy) may occur, particularly with pre-existing vomiting or diarrhea. Potassium loss may cause digitalis intoxication. Potassium loss responds to potassium-rich foods, potassium chloride or, if necessary, discontinuation of therapy. Serum ammonia elevation may precipitate coma in precomatose hepatic cirrhotics. Discontinue therapy 2 weeks before surgery or if myocardial irritability, progressive azotemia or severe depression occur. Exercise caution in patients with chronic uremia, angina pectoris, coronary thrombosis or extensive cerebral vascular disease or bronchial asthma and in those with a history of peptic ulceration or bronchial asthma; in postsympathectomy patients; in patients on quinidine; and in patients with gallstones, in whom biliary colic may occur. Patients who have diabetes mellitus or who are suspected of being pre-diabetic should be kept under close observation if treated with this agent.

ADVERSE REACTIONS: Hydroflumethiazide: Skin-rashes (including exfoliative dermatitis), skin photosensitivity, urticaria, necrotizing angitis, xanthopsia, granulocytopenia, aplastic anemia, orthostatic hypotension (potentiated with alcohol, barbiturates or narcotics), allergic glomerulonephritis, acute pancreatitis, liver involvement (intrahepatic cholestatic jaundice), purpura plus or minus thrombocytopenia, hyperuricemia, hyperglycemia, glycosuria, malaise, weakness, dizziness, fatigue, paresthesias, muscle cramps, skin rash, epigastric distress, vomiting, diarrhea and constipation. **Reserpine:** Depression, peptic ulceration, diarrhea, Parkinsonism, nasal stuffiness, dryness of the mouth, weight gain, impotence or decreased libido, conjunctival injection, dull sensorium, deafness, glaucoma, uveitis, optic atrophy, and, with overdosage, agitation, insomnia and nightmares.

USUAL DOSE: 1 tablet b.i.d.

HOW SUPPLIED: Salutensin (hydroflumethiazide 50 mg., reserpine 0.125 mg.): Bottles of 100 and 1000.

Salutensin-Demi (hydroflumethiazide 25 mg., reserpine 0.125 mg.): Bottles of 100.

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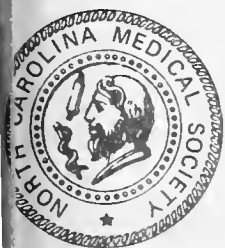
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PRESIDENT'S NEWSLETTER

NORTH CAROLINA MEDICAL SOCIETY

No. 9

February 1979

The 1979 Session of the North Carolina General Assembly is now actively working and there are several health items of interest to the Society.

There is a proposal to amend the current statute requiring certification of Rubella Testing before a marriage license may be issued. Hearings will be held sometime soon on Hospital Cost Containment. A bill was introduced by Rep. J. Reed Poovey of Catawba County with civil penalties for parents who do not immunize children against major childhood disease. An amendment was proposed to the present statutes to provide a clearer explanation and definition of the right to natural death and criteria for determining death. Efforts will be made to repeal or amend optometry legislation passed in the last Session. A special Study Commission which was appointed by the last Session of the General Assembly will propose legislation to revise the Commitment Law statutes. Rep. John R. Gamble, Jr., M.D., of Lincoln County, and Sen. Marshal Rauch, of Gaston County, have introduced bills to request the Food and Drug Administration and the National Cancer Institute to proceed with scientific testing on terminally ill patients, who volunteer, to determine the effectiveness of laetrile. House Joint Resolution 63 endorses in-home services to the aged as a viable and needed alternative to institutional care and requests the Department of Human Resources to work with county governments to insure that a comprehensive, efficient system of in-home care is available throughout the state. House Bill 41 makes it a misdemeanor for anyone to permit a person under the influence of intoxicating liquor to drive a motor vehicle if that person is known to be under the influence.

The Committee on Legislation, John T. Dees, M.D., Chairman, met on February 1, 1979, and that night the Medical Society hosted a reception for members of the General Assembly. One hundred fifty legislators attended with many other state officials. It was a productive and successful meeting.

The Voluntary Effort Committee on Cost Containment is actively working to slow down the rate of increase in health care expenditures. The N. C. State Steering Committee is composed of physicians, representatives from Blue Cross, commercial insurance companies, hospitals, state government and the Duke Endowment. The Committee's broad representation emphasizes that the voluntary effort is a health care cost containment program and not just a hospital cost containment one. The Committee will work to encourage systematic review and reassessment by each hospital of operating and capital budgets with direct involvement of medical staffs and hospital trustees. The nationwide rate of increase in hospital expenditures through the first ten months of 1978 showed hospitals continuing to hold down inflation over three percentage points in comparison with 1977. Figures recently released by the Steering Committee show that for the first ten months of 1978 hospital expenditures increased at the rate of 12.9%. This is down from 16.0% for the first ten months of 1977.

The N. C. Hospital Association recently compiled cost information of N. C. hospitals showing a reduction of 3.6% in the rate of increase for hospital expenditures since 1976. For the fiscal year ending in 1976, the rate of increase in expenditures was 5.8% over 1975. This was reduced to 14.5% in 1977 and projected at 12.2% in 1978.

This reduction in total expenditures took place in spite of the fact that there was a 2.7% increase in admissions for the year ending in 1976 and 2.4% in 1977, with no

Blue Cross reports that 133 short-term general hospitals reported the 1977 rate at 14.3% and is projecting a 11.5% increase in total hospital expenses for 1978-79 year. Total revenues are projected at 12.5% for 1979 from hospital budget estimates.

Nationally hospitalization utilization in 1978 decreased from 1977 levels. Overall inpatient days had a slight decrease of 0.25%. Outpatient visits were reduced by 1.7% in contrast to the 6.1% increase that occurred for the period ending September 1977.

The first nine months of 1978 show that inpatient days for persons under 65 increased 2% from the corresponding period in 1977, while inpatient days, for persons 65 and over, rose 3.9%. Utilization for the 65 and over population has been increasing faster than the total utilization during the past decade. The proportion of admissions for the 65 and over group has risen from 20.3% in 1968 to 26.1% in 1978 and inpatient days from 33.4% to 38.3% during this period.

North Carolina is still lagging in obtaining formal commitment through resolutions of the hospital governing boards and medical staffs. This seems to suggest that a sufficient level of hospital and physician awareness and commitment to the voluntary effort is not being achieved and that more information and emphasis is necessary.

HEW Secretary Califano has promised that hospital cost containment legislation will be among the first orders of business in the 96th Congress. He announced, last December 28th, the administration's guidelines which established 9.7% as its 1979 goal for holding down the rate of increase in hospital expenditures. While he ties the proposal to the President's overall voluntary anti-inflation program, he still emphasizes that federal standby controls would be sought from Congress. Any program of legislative controls would be inconsistent with the voluntary concept and the President's program.

The Secretary has refused to give the voluntary effort any credit for the recent downturn in hospital spending. The National and State Steering Committees feel that the voluntary effort is a more effective mechanism for reducing inflation in the health care industry and for helping achieve the objectives of the President's anti-inflation program.

On February 2-3, 1979, the Conference for Present and Future Medical Leaders was held in Raleigh and was attended by 120 physicians. Lowell H. Steen, M.D., a member of the AMA Board of Trustees; William C. Felch, M.D., Chairman of the AMA Council on Legislation; Sarah T. Morrow, M.D., Secretary of the Dept. of Human Resources; Mortimer T. Enright, Director of AMA's Speakers and Leadership Programs, and many more fine speakers presented an excellent program.

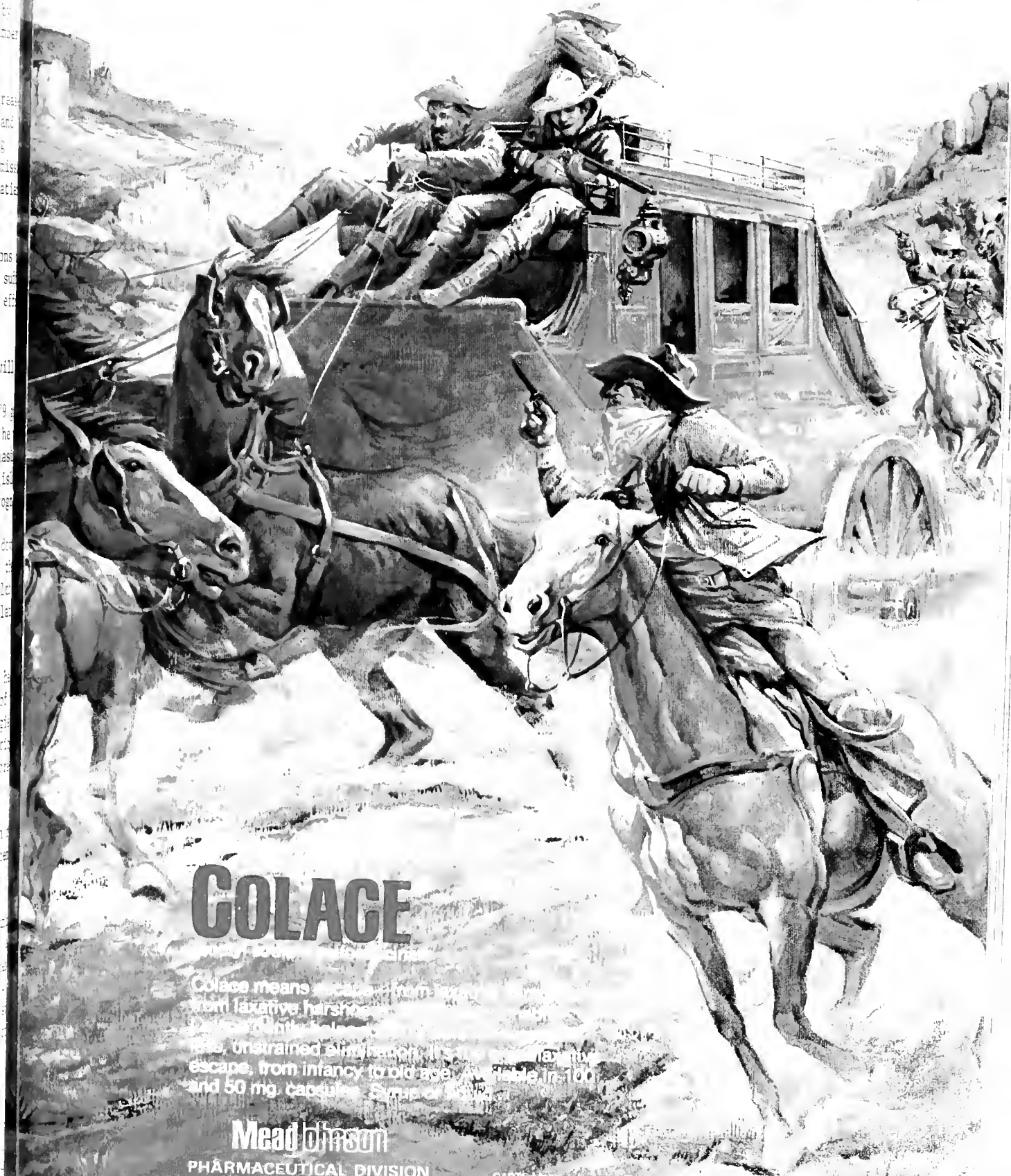
One hundred seventy-four physicians have not met the Continuing Medical Education requirement for the cycle from January 1, 1975, to December 31, 1977 (extended until December 1978).

Hugh H. Tilson, M.D., is Director of the Division of Health Services, Dept. of Human Resources, replacing Jacob Koomen, M.D., who resigned effective October 31, 1978, and is now Professor of Health Administration, UNC School of Public Health. Dr. Koomen was presented a Certificate of Appreciation, at the Executive Council's February 4 meeting, "... in Grateful Recognition of meritorious contribution to the accomplishment of the purposes of the Society". In his capacity as Director of the N. C. Division of Health Services from 1966 to 1978 he had served as an ex-officio member of the Executive Council.

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Current Therapy

Complications of Cytotoxic Antineoplastic Chemotherapy

Douglas R. White, M.D., M. Robert Cooper, M.D.,
Hyman B. Muss, M.D., Frederick Richards, II, M.D., and
Charles L. Spurr, M.D.

ABSTRACT As chemotherapy is employed in the treatment of an increasing number of patients with cancer, practitioners other than oncologists and hematologists encounter and are expected to be familiar with its complications. This review presents and discusses the usual side effects of commonly employed cytotoxic drugs and, where applicable, an approach to the diagnosis and treatment of these side effects.

Complications of Chemotherapy

APPROXIMATELY 80% of the physicians practicing in North Carolina completed their medical training before 1967.* Many of these physicians and many trained earlier were exposed to the early failures of chemotherapy but did not live in subsequent gratifying successes. The decade from 1967-1977 has witnessed profound advances in the treatment of malignant disease due to the development of new agents and regimens employing multiple drugs and to prospectively

randomized multi-modality regimens employing chemotherapy in addition to surgery and irradiation.¹ In 1967 it could be stated that although chemotherapy could control choriocarcinoma and African Burkitt's lymphoma, "... in no other neoplastic condition have drugs produced more than temporary remission."² By 1972, however, chemotherapy could be held as "largely responsible for long-term survival in at least ten types of widespread cancer. . . ."³ Palliative chemotherapy is extensively used in neoplastic diseases for which curative therapy is not available. Experience with single agent sequential therapy in childhood lymphoblastic leukemia and in childhood and adult Hodgkin's and non-Hodgkin's lymphomas has led to the development of programs employing multiple drugs which produce a large percentage of long-term remissions, many of which will be cures. In addition, the observation that in children Wilms' tumor and soft-tissue and bone sarcomas frequently recur after excision and radiation therapy and are then transiently responsive to chemotherapy, has led to the inclusion of chemotherapy in the initial treatment as an adjunct to local surgical or radiation therapy. The result has been a dramatic increase in

disease-free survival among children so treated: Wilms' tumor, approximately two-thirds surviving free of recurrence or metastases compared to about one-quarter in the past; rhabdomyosarcoma, almost 50% tumor-free survival, a fourfold improvement over past experience; Ewing's sarcoma of bone, 50% disease-free survival compared to 90%-95% fatal recurrence previously; and osteogenic sarcoma, 85% disease-free survival at two years compared to 15% previously.⁴ These instances of increased disease-free survival, in diseases where chemotherapy at the time of recurrence is only palliative, suggest that in those adult solid tumors in which predictable, albeit transient, responses are regularly observed, early chemotherapy might be curative. As a consequence, clinical adjuvant chemotherapy trials are presently under way in a variety of adult solid tumors.

The goal of antineoplastic therapy remains cure; often this is not possible with current methods and drugs. But many patients with advanced, recurrent or metastatic cancer may obtain worthwhile palliation, relief from symptoms or increased lifespan, from appropriate treatment. The oncologist must stay abreast of developments as new

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drugs are developed and combinations of these drugs and other forms of therapy are investigated. Usually the initial patient evaluation and the institution of therapy should be carried out in consultation with, or under the supervision of an oncologist frequently in a cancer center. This therapy may be followed by a maintenance program administered by the oncologist or by the family physician with guidance from the oncologist. In either event, the family physician can expect patients and families to ask many questions about complications of therapy and of the effects of treatment on this disease. Common

side effects of chemotherapy may be attributed to progressive or recurrent malignancy while life threatening toxicity may be mistaken for distressing but non-lethal complications. Patients and doctors must learn to talk easily with each other.

Each advance leads to the entry of more of the 15,000 new cancer patients seen annually in North Carolina into a chemotherapy program and to increasing experience with physicians' patients receiving chemotherapy. This review points out the major toxicities associated with drugs commonly used, particularly as observed in the

Hematology/Oncology Clinic of our center, and alludes as well to unusual complications of profound clinical significance.⁵

Most chemotherapeutic drugs induce lethal injury of cells as they attempt DNA replication. Because there is a greater growth fraction (percentage of cells dividing) in the cancer, a therapeutic advantage can be gained. Normal tissues with high growth fraction are therefore most susceptible to toxicity; the gastrointestinal mucosa, bone marrow and skin, including hair cells are frequently injured. Similarly the germinal epithelium of the testis and the follicles of the ovary and the

TABLE 1
Principal Toxicities of Commonly-Used Drugs

AGENT	GASTRO-INTESTINAL				INTEGUMENT			URINARY						REMARKS:	
	Myelosuppression	Nausea vomiting	Mucositis	Hepatotoxic	Alopecia	Skin	Vesicant	Renal	Bladder	Pulmonary	Cardiac	Neurologic	Fever		Infertility
Alkylating:															
Busulfen	++	+/-	+/-		+/-	+				+				++	gynecomastia, impotence
Chlorambucil	++									+/-				+	
Cyclophosphamide	++	++			++	+/-			++	+	+/-			++	
DTIC	++	++++		+/-	+			+/-					++		
Melphalan	++	+/-												++	
Nitrogen Mustard	++	++++			+		++++							++	
Antimetabolites:															
BCNU	++*	++++					+++								*delayed, prolonged
CCNU	++*	++++	+/-		+										*delayed, prolonged
Cytosine															
Arabinoside	++	++	+/-	+/-											
5-FU	++	+	++++		+	+						+			*cerebellar ataxia
6-MP	++	++		+/-								+			decrease dose if allopurinol
Methotrexate	++	+	++++	+	+			+		+		+		+	*see text
Thioguanine	++	+/-		+/-											
Antibiotics:															
Actinomycin D	++	++++	++*		+	++*	++++								*radiation enhanced
Adriamycin	++	+++	++++	+/-	++++	+	+++				++*				*dose & idiosyncratic
Bleomycin		+	+/-		+	++				++*			+		*dose & idiosyncratic
Mithramycin	++	+	+	+											hypocalcemia
Mitomycin C	++	+	+		+		+++	+					+		
Alkaloids:															
Vinblastine	++				++		++++					++			
Vincristine		*			++		++++					++++			*paralytic ileus
Other:															
Hydroxyurea	++	+	+			+									
Procarbazine	++	+	+			+						++*			*see text
Investigational:															
Cis-platinum	+	++++						++++				+			*ototoxicity
Daunomycin	++	+++			+		+++				++*				*dose & idiosyncratic
L-Asparaginase		+		++								+	+		*depression
Methyl-CCNU	++*	++++													*delayed, prolonged
+/-	reported but infrequently observed														
+	reported, observed														
++	frequent														
+++	frequent, moderate														
++++	frequent, severe														
*	see remarks														

developing fetus are predictably susceptible to toxicity.

Toxic effects (Table I) from chemotherapy may occur within seconds after administration or may be delayed for years or even generations. Some are mild and self-limited, most are manageable if anticipated, and a few are irreversible or fatal in spite of all efforts. It is essential to weigh the risk-benefit ratio for the patient before employing these drugs, and in questionable cases where immediate survival is at stake, the possibility of yet unknown long-term adverse effects should be added into the balance.

Myelosuppression

Myelosuppression is unavoidable even when replicating cells are selectively attacked and limits the dose of most drugs. Several drugs, e.g., doxorubicin and vincristine, are not myelotoxic except for patients whose marrow is already suppressed.⁶ Toxicity from methotrexate (MTX) can be prevented by giving folinic acid within 6-12 hours of MTX dose. With most drugs blood counts usually begin to decline within 5-7 days with the lowest counts at 10-14 days. Recovery in 3-6 weeks is often followed by an overshoot if further therapy is withheld. With the nitrosoureas (BCNU, BCNU, Methyl-CCNU), decline in counts at two weeks may be followed by a profound decrease at 6 weeks. With most regimens the agents are given at intervals of 6 weeks. Busulfan (Myeleran[®]) used in treating chronic granulocytic leukemia should be used with caution because it can cause myelosuppression lasting 6 months or longer after the drug is stopped. Phosphoramide (Cytosan[®]) has a platelet-sparing effect relative to the degree of neutropenia induced by melphalan (Alkeran[®]) and nitrosourea appear more toxic to platelets than neutrophils. Bacterial infection occurs with increased frequency the further the absolute neutrophil count (neutrophils plus bands) falls below $1000/\text{mm}^3$ and is extremely common with neutrophil counts less than $100/\text{mm}^3$.⁷ Patients with white blood counts should be observed

carefully for evidence of infection; fever should be presumed due to bacterial infection and treated promptly. Due to the absence of neutrophils the usual signs of inflammation may be absent even with abscess, cellulitis or pneumonia. Leukocyte transfusions, when available, are usually not necessary because antibiotics and other supportive measures often carry the patient through the phase of transient neutropenia. Thrombocytopenia below $20,000/\text{mm}^3$ without bleeding or below $50,000$ with bleeding is an indication for platelet transfusions. Because of the vulnerability of platelets, aspirin and other agents which inhibit their function should be used sparingly if at all. Intramuscular injections are contraindicated because of the risk of hematomas. Transfusions of packed red blood cells should be given to patients with symptomatic or severe anemia (hemoglobin $\leq 9 \text{ gm\%}$).

Gastrointestinal

The nausea and vomiting which occurs shortly after drug administration is due to excitation of the central nervous system rather than gastrointestinal damage and is particularly severe with nitrogen mustard, DTIC, the nitrosoureas, actinomycin D and Cis-platinum. It is unusual for severe symptoms to last more than a few hours and other causes should be considered if they last more than 48 hours. Phenothiazine antiemetics are moderately effective and sedation may be helpful in patients experiencing more severe symptoms.

Nausea, vomiting, abdominal cramping and diarrhea often with stomatitis or proctitis may occur days to weeks after therapy because of gastrointestinal mucosal injury which can be caused by methotrexate, 5-fluorouracil (5-FU), actinomycin D, and adriamycin. In particular, patients receiving combinations of adriamycin and methotrexate should be carefully observed because hemorrhagic enterocolitis may be lethal. Potentiation of irradiation mucositis has been particularly severe with actinomycin D and adriamycin. While mild mucositis may be acceptable,

ulcerative stomatitis and diarrhea indicate severe toxicity. Chemotherapy should be withheld until symptoms clear completely; when it is resumed, a reduced dose is used. Dehydration may necessitate parenteral rehydration while nystatin oral suspension (or oral use of vaginal suppositories which provides a sustained local concentration) may give rapid and dramatic relief of symptoms of such fungal complications as stomatitis, esophagitis or enteritis. Viscous xylocaine or other topical analgesics may be helpful but may predispose to aspiration.

Hepatotoxicity

Hepatocellular toxicity reported with DTIC, methotrexate, 6-mercaptopurine, cytosine arabinoside, adriamycin, mithramycin and L-asparaginase is usually mild and self-limited, but cirrhosis may develop with methotrexate and 6-MP and L-asparaginase toxicity may be fatal. Patients with a demonstrated potential for hepatic toxicity should have liver function tested regularly. The SGOT provides a sensitive indicator of hepatocellular damage and elevation in alkaline phosphatase may be the first evidence of cholestasis. When damage is apparent, the offending drug should be permanently discontinued; however, deteriorating liver function in the cancer patient may be due to viral hepatitis or cholelithiasis so that careful observation is essential.

Alopecia

Patients should be warned that adriamycin, daunomycin and vincristine almost always cause alopecia. Usually eyebrows, eyelashes and beard are spared. In most cases, hair growth resumes at a slower rate in spite of continuation of therapy. The use of a scalp tourniquet during the administration of vincristine has been advocated for preventing baldness. It is doubtful whether this is effective; if it is, sanctuary could be provided within the scalp for malignant cells. Because hair growing during intensive chemotherapy is thin and irregular, patients should be cautioned that rough handling, permanents and

professional dyeing are likely to cause more damage.

Skin Changes

Generalized hyperpigmentation of the skin or nails is common with bleomycin, busulfan, cyclophosphamide, 5-FU, adriamycin and hydroxyurea. Other skin changes include hyperkeratosis, urticaria, typical dermatitis medicamentosa, desquamative dermatitis, enhancement of radiation dermatitis, and, with actinomycin D, folliculitis.

Certain chemotherapeutic drugs are powerful vesicants and produce severe local tissue necrosis when extravasation occurs. The agents are not caustic *per se* but are rapidly fixed to the tissues, producing local metabolic poisoning. Adriamycin, vincristine and vinblastine are the most commonly used vesicants, but nitrogen mustard, BCNU, mitomycin C, daunomycin and actinomycin-D may produce severe reactions and extensive and extremely painful tissue sloughs.

Vesicants should be injected into the tubing of a freely flowing IV or if possible should be administered as a dilute solution to avoid high local concentration. When, despite exemplary technique, extravasation occurs, the infusion should be stopped and the needle removed. If nitrogen mustard has been extravasated, local injection of sodium thiosulfate has been recommended to bind residual alkylator.⁸ It is our practice to infiltrate the area with methylprednisolone followed by application of a cold compress. Subsequent warm compresses may provide symptomatic relief. If tissue necrosis occurs, therapy should be directed toward prevention of local infection. Sloughs may be severe and plastic surgery may be required.

Skin changes due to hypersensitivity to medications, to infections or to cutaneous infiltration with malignant cells must be distinguished from drug side effects.

Urinary Tract

Direct renal toxicity is uncommon with most chemotherapeutic drugs although all may produce uric

acid nephropathy due to rapid breakdown of sensitive tumors. Cis-platinum, an investigational drug highly effective in the treatment of non-seminomatous testicular carcinomas, is associated with profound irreversible renal toxicity preventable by maintaining rapid urine flow during its administration.⁹ With high-dose methotrexate precipitation of methotrexate crystals within the renal tubules may lead to irreversible renal failure but with normal renal function this can be prevented by hydration and alkalization of the urine. Nephrotoxicity has been reported with DTIC and mitomycin C. Defects in renal tubular reabsorption may occur with the investigational nitrosourea, streptozotocin.

Red urine following the administration of adriamycin or daunomycin is caused by the excretion of red pigment and does not indicate hematuria or hemoglobinuria; however, red urine in patients receiving cyclophosphamide suggests hemorrhagic cystitis due to drug metabolites, a process which may induce telangiectasia or fibrosis of the bladder.¹⁰ Dysuria and hematuria in the absence of infection strongly suggest chemical cystitis and the drug should be discontinued. Hospitalization, cystoscopy and local therapeutic measures including formalin installation may be required.¹¹ The incidence of cystitis may be decreased by maintaining a dilute urine for 24-48 hours after intravenous or continuously with daily oral cyclophosphamide.

Pulmonary

Progressive interstitial pulmonary fibrosis represents the major toxic reaction to bleomycin. It is regularly reproduced at high dosages but may be idiosyncratic and has been reported with low dose.¹² Pulmonary fibrosis occasionally occurs with busulfan,¹³ less commonly with cyclophosphamide and at times with chlorambucil. Unfortunately the fibrosis is often irreversible and may progress despite discontinuing the responsible agent. Since, with bleomycin, dry rales may precede radiographically apparent fibrosis, auscultation of the

lungs should be performed before each injection. Pulmonary infiltrates have been reported in patients receiving methotrexate and are apparently due to an allergic spontaneously resolving alveolitis. This reaction has been seen more frequently in patients with acute lymphocytic leukemia and occurs when prednisone is withdrawn. It is acute, is accompanied by fever, dyspnea and arterial hypoxemia and usually resolves over a period of several days to two weeks with supportive therapy, whether or not methotrexate administration is continued.¹⁴

Pulmonary infiltrates in patients receiving chemotherapy often present a major diagnostic challenge. The differential diagnosis includes drug toxicity, bacterial, mycobacterial, opportunistic fungal or protozoan infection, hemorrhage, metastases. Radiation pneumonia or fibrosis must also be included in patients who have received thoracic irradiation. If a drug with known pulmonary toxicity, especially bleomycin or busulfan, is being administered, it should be stopped until the etiology of infiltrates is established. Frequently transbronchial, open or percutaneous lung biopsy is required. These more aggressive procedures are usually withheld until failure of broad spectrum antibiotics including high dose trimethoprim-sulfamethoxazole for *Pneumocystis carinii* has been demonstrated although some consider a positive lung biopsy a prerequisite for drug therapy of pneumocystis pneumonia.

Cardiac

Myocardial toxicity is a matter of major clinical importance when adriamycin is given for solid tumors, lymphoma, leukemia and myeloma and with the widespread use of daunomycin in adult acute leukemia. Cardiotoxicity seems related to the cumulative dose and the duration of its administration. Attempts to determine which patients will develop cardiotoxicity from adriamycin have included systolic time interval determinations,¹⁵ quantitation of QRS voltage using standard electrocardiographic

phy, and left ventricular ejection fraction by echocardiography but these are not yet sensitive or specific enough to be of value.¹⁶ Total cumulative dose determined by experience remains the best guide. If adriamycin is discontinued at the first sign of myocardial difficulty, the condition may stabilize or even improve, but the onset of frank congestive heart failure is ominous. Myocardial irradiation or concurrent cyclophosphamide appears to produce toxicity at lower cumulative doses. Patients with a history of cardiac failure due to atherosclerotic heart disease or cardiomyopathies are probably not at greater risk, but minimal decrease in cardiac function may be disastrous. Acute transient arrhythmias occasionally occur during or immediately after adriamycin or daunomycin infusion but serious ventricular arrhythmias have not been observed.¹⁷

Neurologic

Neurotoxicity is the principal adverse side effect of the vinca alkaloid vincristine and affects autonomic as well as motor and sensory fibers and progresses from loss of the Achilles reflex and distal paresthesias to areflexia, and motor weakness. Profound motor weakness, and loss of sensation with higher doses may not resolve completely upon discontinuing the drug. Following a single injection of vincristine, paralytic ileus may occur, particularly in elderly individuals who may require hospitalization, gastric intubation, and parenteral rehydration.¹⁸ The related vinca alkaloid vinblastine produces a milder but less striking neurotoxic syndrome and is myelotoxic as well.

Reversible cerebellar ataxia due to 5-FU, reversible CNS depression with L-asparaginase and irreversible neurotoxicity with cis-platinum occur less commonly. Progressive multifocal leukoencephalopathy, an irreversible progressive demyelinating disease, has been observed in some children with acute lymphoblastic leukemia and may represent enhancement of methotrexate toxicity by irradiation. Intrathecal administration of methotrexate is

often accompanied by symptoms of meningeal irritation; on rare occasions, severe reactions including transient or permanent paraparesis or paraplegia have occurred. In some instances the spinal cord injury appears to have resulted from high concentration of drug locally due to entrapment by a subarachnoid block. Arachnoiditis is not necessarily drug-specific, the substitution of intrathecal cytosine arabinoside for methotrexate having provoked a similar reaction.¹⁹

The blood brain barrier is relatively permeable to procarbazine, 5-FU and the nitrosoureas so that substantial CSF concentrations can be attained. Procarbazine neurotoxicity may be manifested by disorders of consciousness, peripheral neuropathy, or signs of monoamine oxidase inhibition. Due to interference with other enzymes procarbazine can enhance the sedative effects of barbiturates, narcotics and phenothiazines, and it may produce an alcohol intolerance syndrome similar to that seen with disulfiram (Antabuse®). It also interacts with many other medications but reactions, while uncomfortable and alarming, are rarely severe.¹⁴

Fever

Fever, occasionally severe, usually self-limited and easily distinguished from infection, is common with DTIC, bleomycin, mitomycin C and L-asparaginase. Since it may be an immediate hypersensitivity reaction, patients should be observed carefully for respiratory embarrassment, particularly with subsequent doses of the medication. Because of the frequency of fever with bleomycin infusion, premedication with methyl-prednisolone 40 mg intravenously may be advisable.

Fertility

Infertility following exposure to alkylating agents is related to dose and duration of exposure. Testicular biopsy after such therapy demonstrates decreased or absent tubular epithelium with persistence of Sertoli and Leydig cells. This is reflected by azoospermia with normal libido, testosterone and lu-

teinizing hormone level.²⁰ Amenorrhea during alkylating agent therapy is common, and ovarian biopsy after prolonged treatment may show complete absence of ova and no evidence of follicular maturation.²¹ Although earlier investigators found it difficult to distinguish chemotherapy effects from pituitary-ovarian dysfunction due to debilitating illness, experience with adjuvant therapy has confirmed that chemotherapy does cause ovarian failure. Drugs other than alkylating agents can probably induce temporary or permanent sterility.

Fetal Damage

Greatest fetal sensitivity to damage by chemotherapeutic drugs occurs during the first trimester. The antimetabolites, methotrexate and 6-MP, are most often blamed for abortion and fetal malformation and should be absolutely avoided then.²² Normal infants have been born following exposure to most chemotherapeutic drugs; however, all are capable of producing fetal damage and contraception should be employed by any fertile woman under treatment. Because an increase in congenital abnormalities among the offspring is possible, prolonged follow-up is essential. Immunodeficiency states have not been observed but ovarian dysgenesis has²³ and long-term observation may reveal more cases.

Carcinogenesis

The old adage "anything that can cure cancer can cause cancer" is relevant to chemotherapy, especially to chemotherapy combined with radiation therapy. An increased incidence of second malignancy is observed with most malignancies. This does not, however, account for the greater than expected frequency of cancer in patients receiving immunosuppressive chemotherapy for non-malignant conditions. Two likely mechanisms for cancer induction by chemotherapy are suppression of an immunologic anti-cancer surveillance system and a direct carcinogenic action due to interaction with DNA.²⁴ Many chemo-

therapeutic drugs are potent carcinogens in clinical test systems and the nitrogen mustards, the nitrosoureas and procarbazine are prototypical carcinogenic compounds.²⁵ Chemical carcinogenesis is generally a prolonged process and second cancers are most likely to occur in patients with prolonged survival after exposure to therapy or individuals with *in utero* exposure.

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The Art of Questioning the Patient. — We can next pass to a consideration of the objects to be sought in questioning a patient as to the illness from which he is suffering. Often much information can be gained by a well-directed question, and a favorable impression can be made upon the patient by the manner in which it is put and the bearing which it has on his case. Thus, if a man is evidently much emaciated and his clothes fit him loosely, a question in regard to his loss of flesh is very appropriate; but if he is manifestly too stout for comfort such a question will be most unwise. Or, again, if a young married woman comes complaining of constant sickness of the stomach and a fanciful appetite, and the physician directs all his questions to the condition of the stomach without an eye to a slight increase in size about the waist or below it, his professional acumen is in grave danger of being labelled by that same woman, who knows, or soon finds out, that her discomfort is due to pregnancy.

If the woman is unmarried and there is no evidence of gastric disorder on her tongue, it is well to remember what Battey, of Georgia, said in regard to this condition: "Always believe a young unmarried woman with abdominal tumor, of high social position and unimpeachable virtue, if she has been watched over by a platonic and abstemious young cousin of the male persuasion while the mother went out, to be pregnant." — *Diagnosis in the Office and at the Bedside*, Hobart Amory Hare, 1914, p 21.

Foreign Body Aspiration in Children: Recognition and Safe Management

Howard C. Filston, M.D.

ABSTRACT Foreign bodies in the airway are relatively common in infants and severe complications and even death may attend their removal. They can be successfully and safely removed by experienced pediatric endoscopists equipped with modern optical telescopic bronchoscopes and retrieval instruments appropriately adapted for use with these devices. These are not cases for the occasional pediatric endoscopist. Painstaking anesthetic management, coordinated with the surgeon's manipulations, is essential.

ASPIRATION of foreign materials into the airway is a common problem in young children. The tendency of many children to explore their environments by touching, tasting and ingesting objects frequently leads to swallowing of small objects and less frequently, but in still significant numbers, to aspiration. Total obstruction of the airway is fortunately uncommon. Partial obstruction with varying degrees of respiratory distress is the usual presenting feature. Retrieval of these objects is a major undertaking and may lead to serious complications and even to death.

The following case reports concern some of the pitfalls encountered

by the occasional child endoscopist with the safer and more successful management obtainable when modern equipment and a planned cooperative program of anesthetic and surgical care are available. The essential elements of modern airway evaluation and foreign body retrieval are then outlined.

Case Report No. 1

A previously healthy 16-month-old male stumbled while eating peanuts, choked and recovered seemingly normal respiratory function after being inverted and slapped on the back. One peanut was expectorated during this maneuver. The following morning he was febrile, tachypneic and dyspneic. He was initially sent home from his local hospital emergency room, but his symptoms worsened and he returned and was admitted. Chest radiography revealed a right upper lobe infiltrate. He was referred to a larger hospital for further therapy. Two days after the incident, his symptoms had further worsened and he developed a right pneumothorax. At surgery, tube thoracostomy relieved the pneumothorax and three peanut fragments were retrieved at bronchoscopy.

After these operations, his respiratory distress, hypoxemia and CO₂ retention persisted and required endotracheal intubation and

mechanical ventilator support. On the sixth day after aspiration, after two attempts at extubation failed, the child was rebronchoscoped and the airway was reported to be free of additional foreign bodies. Because of the persistent ventilatory insufficiency and the findings of hyperinflation of the left lung and right upper lobe atelectasis on chest radiograph, the child was transferred to Duke University Medical Center on the seventh day after aspiration.

On examination the child was found to be intubated, paralyzed with muscle relaxants and mechanically ventilated. Temperature was 38°C; pulse was 160-180 beats/min. The left chest appeared more expanded than the right and there was poor air exchange on the left with a prolonged expiratory phase. Air exchange was better on the right, but the expiratory phase was prolonged and diffuse rhonchi were present. Chest radiograph showed a hyperinflated left lung and right lower lobe with atelectasis of the right upper lobe.

Bronchoscopy was performed under general anesthesia using the pediatric optical telescopic ventilating bronchoscope (Fig. 1).^{*} Two large peanut fragments, one obstructing the left main stem bronchus and another the distal right main stem bronchus, were readily seen and removed using a 4 French Fogarty embolectomy catheter.

His initial postoperative arterial

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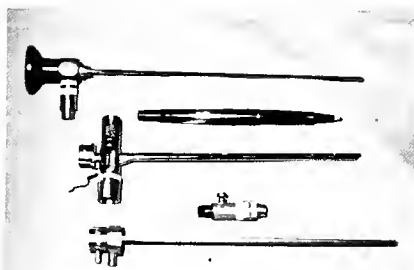


Fig. 1. The pediatric telescopic bronchoscope, newborn size, compared to a standard felt pen. The telescope (top) contains the Hopkins rod lens optical system. It fits into the defogging sheath (bottom) and together they fit into the standard pediatric bronchoscope shown with its instrument channel and ventilating side arm.

blood gases showed P_{aO_2} : 125 mm Hg, P_{aCO_2} : 38 mm Hg, and pH: 7.48. The respirator was discontinued six hours after bronchoscopy and the child was extubated on room air the next morning. A small residual right upper lobe atelectasis gradually resolved.

Case Report No. 2

An 11-month-old female was well until the day before admission when she ingested a handful of aquarium gravel. She coughed, gagged and expectorated many pebbles, but dyspnea and coughing persisted for some time afterward. She was taken to the emergency clinic where x-rays were interpreted as normal. The films were subsequently re-viewed and a radiopaque foreign body noted in the right main stem bronchus.

She was transferred to Duke University Medical Center where chest radiographs showed right hyperaeration. At bronchoscopy under gen-



Fig. 2. Bronchoscopic view of the foreign body in the right main stem bronchus of an 11-month-old child (Case 2). The carina is seen at the far left of the circle with the shadowed area being the proximal left main stem bronchus.

eral muscle relaxant anesthesia the foreign body was easily visualized obstructing the right main bronchial orifice (Fig. 2). A 4 French Fogarty embolectomy catheter was advanced beyond the pebble through the instrument channel under clear direct vision; the balloon was inflated; and the catheter retracted bringing the pebble into the lumen of the bronchoscope. The entire scope was then removed (Fig. 3).

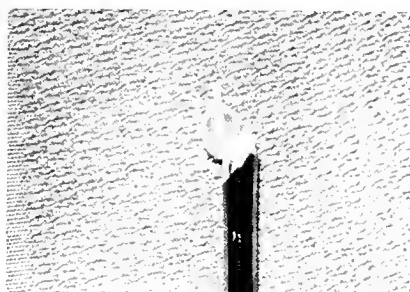


Fig. 3. The pebble is seen trapped between the inflated balloon of the Fogarty embolectomy catheter and the lumen of the bronchoscope. The continued presence of the foreign body in the lumen of the scope can be observed during its extraction.

Re-bronchoscopy showed mucosal irritation at the right main orifice but an otherwise patent airway without additional foreign objects (Fig. 4). Her postoperative course was benign and she was discharged symptom free the next morning.

Discussion

Safe management of young children who have aspirated objects requires early recognition; a well-prepared plan for intra-operative management by the endoscopist and anesthesiologist; bronchoscopic instruments capable of providing an adequate airway evaluation for an endoscopist experienced in the care of infants; knowledge, skill and imaginative instrumentation for retrieval of the foreign objects; and a competent nursing facility for postoperative airway support.

Recognition

Foreign body aspiration is easily recognized when airway obstruction is acute and essentially complete. When it is partial or segmental in the tracheobronchial tree,



Fig. 4. Re-bronchoscopy after removal of the pebble (Case 2) shows the carina with the main stem bronchi widely patent and the segmental bronchi in the basal segments. No additional foreign bodies are present. The right main stem bronchus is hyperemic from irritation of the foreign body.

symptoms may range from the fairly acute onset of dyspnea, cough, stridor and progressive respiratory failure to the insidious development of segmental pneumonia which persists after seemingly adequate therapy. Any child presenting with the acute onset of dyspnea or with persistent pneumonia should be suspected of having aspirated. If a history of ingestions or mouthings of objects is obtained and the child is symptomatic, airway evaluation is mandatory. In the absence of positive history, the young child with acute dyspnea and cough should be suspected of having aspirated a foreign object.

The chest roentgenogram gives important clues. The most common finding with partial obstruction of a major bronchus is hyperaeration of the same side. This may be hard to appreciate on inspiratory films, but it is usually clearly demonstrated when inspiratory and expiratory films are obtained concomitantly (Fig. 5). The failure of the partially obstructed lobe to collapse may be more easily demonstrated in uncooperative infants by obtain-



Fig. 5. An example of inspiratory (left) and expiratory (right) films in the presence of a foreign body in the left main stem bronchus. No abnormality is obvious on the inspiratory film but on the expiratory film the failure of the left lung to collapse indicates a "valve" obstruction in the left main stem bronchus.

lateral decubitus views. A normal film will show decreased volume when it is the lower side of a decubitus view, according to Cossman.* Most aspirated objects will be vegetable material such as nuts or beans which are not radiopaque, although an occasional one will be directly visible on the chest radiograph.

Bronchoscopy

Recently Ward and Benumof reported three cases of foreign body removal with serious complications and emphasized the importance of pre-bronchoscopic planning between the surgeon and the anesthesiologist.¹ Assurance of a well-controlled airway with continuous capability to ventilate the child is mandatory. Muscle relaxants should be relied upon to insure relaxation during the procedure and to avoid undue trauma to the respiratory tract. Temperature, heart rate, blood pressure and EKG should be carefully monitored.

Significant advances have been made in bronchoscopy of infants and children with the advent of the fiberoptic telescopic bronchoscopes² which range from 3 mm outer diameters to adult sizes and allow successful procedures in the tiniest premature. The outer bronchoscopic sheath permits dependable airway control and ventilation and imaginative instrumentation. The firmer rod lens telescope with its surrounding fiberoptic light bundles provides a large well-illuminated

clear field of view so that segmental bronchi can be clearly visualized in the tiny infant.

Removal of the Foreign Body

The usual approach to a foreign body has been to pass a grasping forceps through the bronchoscope. In infants this usually obstructs the view when old style bronchoscopes are used. Foreign bodies made of vegetable matter are frequently broken and smaller segments may then be dispersed throughout the tracheobronchial tree.

We prefer to pass a Fogarty balloon catheter (4 French) through the instrument channel of the telescopic bronchoscope. The catheter occupies only a small part of the visualized field and can be carefully threaded beyond the object. The balloon is then inflated and used to deliver the foreign body into the lumen. The entire bronchoscope is then slowly removed. Good ventilation and paralysis must be maintained so that immediate reintubation can be done if necessary. Usually, the object is easily removed, but if lost it can be recaptured with ease.

If removal is unsuccessful with the balloon catheter, the Dormia stone basket may be used. It, too, can pass through the instrumenting channel of the telescopic bronchoscope. The foreign body is manipulated into the open wires of the basket and the wires then tightened about it. Again, the entire instrumenting unit is removed.

Re-evaluation

Once the foreign body is re-

moved, bronchoscopy should be repeated to search for other foreign objects and to assess damage to the airway. We then usually intubate the patient to ensure a safe airway when anesthesia is discontinued.

Postoperative Care

Most of these children do well so that severe postoperative respiratory dysfunction suggests a retained foreign body. Upper airway obstruction due to laryngeal or epiglottic edema usually responds to a few treatments with racemic epinephrine³ using a saline mist unit. Mild to moderate tracheobronchitis may persist for a few days. Foreign bodies containing oils such as peanuts may produce lipid pneumonia with persistent infiltrates.

We have generally treated these children with ultrasonic mist by face mask or tent and have added postural drainage and chest physiotherapy when the foreign body has been present for more than a few hours or when there is residual atelectasis.

Prevention

The medical profession, especially those members in primary care activities, could do much to prevent these life threatening accidents by cautioning parents not to let infants put small objects in their mouths.

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*Cossman, H., personal communication

The young physician, in particular, in asking questions of women patients of the better class, should not hesitate to ask direct questions as to the state of the bowels or of the menstrual function. To hesitate or ask indirect questions about such matters simply produces embarrassment which otherwise would not exist, and intimates that the question is one of doubtful propriety, when in reality it is most important and proper. — *Diagnosis in the Office and at the Bedside*, Hobart Amory Hare, 1914, p 22.

Replantation of Amputated Digits in the Upper Extremity

J. Connell Shearin, Jr., M.D.,* and Harold E. Kleinert, M.D.**

ABSTRACT With the development of microsurgical techniques, replantation of amputated extremities has become extremely rewarding to both the patient and the surgeon, provided there is a careful adherence to certain principles including indications and contraindications for replantation. Careful postoperative care is necessary and subsequent reconstructive procedures likely. Follow-up evaluation and care should provide the patient a functional replanted part.

It is only over the past decade and a half that replantation of amputated parts has become a realistic possibility. Malt successfully replanted the arm of a 12-year-old boy in 1962, for the first time demonstrating the feasibility of such a procedure,¹ and in 1963 the Chinese surgeon Chen Chun-Wei reported the successful replantation of a forearm.² The replantation of digits, however, had to await the solution of new problems in surgical microtechnology.

The development of ultrafine, non-reactive suture material, and the refinement and use of the operating microscope have been the catalysts for the phenomenal growth in microvascular surgery.

Jacobson and Suarez demonstrated the value of the operating microscope in 1960.³ Salmon and Assimocopoulos,^{4,5} Buncke⁶⁻⁸ and Cobbett⁹ developed new instrumentation and demonstrated in experimental work the possibility of digital replantation. Kleinert followed with a microvascularized digit in 1963.¹⁰ Progress since then has been increasingly rapid, with the majority of replants having been performed during the last five years. On the Louisville Hand Service, for example, over 87% of all replants have been done in the last three years.¹¹

As in any new area in science, rapid development of new technology brings with it new problems that time and experience usually solve. As experience has been gained, the indications and contraindications for replantation have been delineated. The changing pattern of success in replantation during the last six years (26.8% successful in 1974; over 90% in 1976) reflects not only the refinement of microvascular technique but also the application of evolving refinements in patient selection.

Absolute contraindications to replantation include multiple level injuries in the same digit; severe crushing injuries; massive contamination; the preservation of the amputated parts in non-physiologic solutions; normothermia in excess of six hours; and inadvertent freez-

ing of the amputated parts. Unstable general condition of the patient as a result of other injuries may also preclude replantation. Although not absolutely contraindicated, replantation of an isolated amputation of a digit (other than the thumb) is not rewarding except under extenuating circumstances, such as cosmetic considerations or occupational requirements, and can result in significant social and economic morbidity. Any severe crushing injury which results in poor distal vascular flow precludes replantation. All multiple digital amputations and all individual thumb amputations should be replanted whenever possible, as should most proximal amputations. As in all hand surgery, the primary aim of the replantation must be not just survival but the achievement of a functional hand that is more useful than a comparable prosthesis.

The patient's psychological status must be carefully evaluated. One who is insufficiently motivated and who is unwilling to accept a protracted period of convalescence and rehabilitation, including probable secondary operative procedures, should not be offered replantation. Patients with serious systemic illnesses, disabilities precluding successful function after surgery, or concomitant life-threatening injuries should not be considered. The decision to replant is not always easy, and the burden

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the decision must lie mainly with the surgeon, since most people are reluctant to lose any part of their extremity. In follow-up of 100% of successful replants and 66% of unsuccessful replants in our series, all patients stated without exception that they would undergo the procedure again rather than let closure of the amputated stump.¹¹

After the preliminary decision to attempt replantation has been made, a complete history and physical examination are obtained. Preoperative laboratory and diagnostic studies should include a CBC, urinalysis, and SMA 18; x-ray of the limb stump and the amputated part(s); blood typing and appropriate anti-tetanus therapy. Ten grains of aspirin (to decrease platelet adhesiveness) are administered. Once in the operating room, a hypotensive block is performed or, in case of bilateral amputations, general anesthesia is administered. A tourniquet is applied to the stump to control bleeding and to facilitate debridement of the injured tissues. Neurovascular structures, tendons, and muscles are identified and tagged. In most cases two surgical teams should be available so that the recipient site of the replant can be prepared simultaneously. Prior to bony fixation of digital amputations approximately 0.6-1.0 cm of bone shortening is performed to allow a tension-free approximation of soft tissue, skin and neurovascular structures. For bone shortening is carried out in amputations at other levels. After bone fixation is accomplished, repair of extensor and flexor tendons, veins, arteries and nerves is carried out. Our experience indicates that best results are obtained when all structures are repaired primarily.

The main functional problem after replantation has been flexor non-adhesion and joint stiffness. In digital amputations distal to the proximal interphalangeal joints, extensor tendon repair, although desirable, is probably not essential. Extensive adequate circulatory repair, adequate primary nerve repair is essential since function of the

surviving digits will depend to a great extent on the sensation obtained.

Good results in replantation cases basically reflect good judgment, careful selection of cases and attention to minute detail including microsurgical technique. There must be no compromise in obtaining adequate exposure, or in avoiding tension at the site of anastomosis. Tension can be relieved by (1) bone shortening, or (2) vein grafts to lengthen the artery and vein where further bone shortening would compromise function. A non-circular postoperative dressing encasing the extremity with soft foam rubber is applied, and the amputated part elevated. The extremity is evaluated at frequent intervals for signs of vascular compromise. A cold, mottled blue or pale digit suggests arterial occlusion, while a bluish-purple edematous appearance suggests venous occlusion. If such signs occur, the patient is returned to surgery.

Postoperative medications include the following: (1) ASA, 10 grains orally every 12 hours, to reduce platelet aggregation and decrease the likelihood of platelet thrombosis;¹² (2) Dextran 40, 5-7 mg/kg/24 hours as a constant drip, to expand blood volume, prevent sludging and distal damage to capillary beds, and inhibit platelet adhesiveness and rouleaux formation; (3) Heparin (in replantations distal to the palmar crease), 20,000-25,000 u/24 hours as a constant drip.

Replantation should be performed by surgical teams with training in the principles of microvascular surgery and with sufficient manpower for vigilant postoperative care and follow-up of these patients. The best results will be obtained by the transport of the patient and the amputated part to the nearest replantation center. Prior to transport, intravenous fluids are started and antibiotics and appropriate tetanus prophylaxis administered. The stump is cleaned and dressed to control hemorrhage and to prevent further contamination. The amputated part is washed in isotonic solution (Ringer's lactate

or normal saline), blotted and placed in a sealed sterile plastic bag on ice. No antiseptics or non-physiological solutions should be used. In case of devascularized incomplete amputations, the limb should be splinted and the devascularized portion cooled to decrease the risk of infection by inhibiting the multiplication of bacteria and the production of toxic metabolites. Cooling also decreases the metabolic rate in the severed part and significantly retards the ischemic and necrotic processes, thus increasing the acceptable interval between injury and revascularization or replantation. Under normothermic conditions, the upper limit of irreversible ischemia is approximately six hours. However, under hypothermic conditions much longer ischemic intervals can be tolerated. Onji¹³ has reported success with ischemic periods of up to 24 hours and the Chinese up to 33 hours.¹⁴ Hypothermia also decreases the edema in the amputated part and thus contributes to improved venous return in the replant. The fluid sequestered is directly related to the level of amputation and to normothermic ischemic time.¹⁵ Hence the more proximal the amputation, the more critical the ischemic interval.

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Editorial

MEDICINE MEANS MORE THAN MECHANICAL APTITUDE

When medicine changes as rapidly as it has in the past 25 years, some of us may feel like our own medical ancestors. For we may have given arm and hip shots, established pneumothorax or pneumoperitoneum for tuberculosis and used vitamins therapeutically rather than as placebo. Yet our successes in therapy and diagnosis have brought us more regulation as well as higher income, diseases of medical progress, more litigation and such an increase in knowledge that we can only realize the depth and breadth of our ignorance. Our decisions in an era of diagnostic abundance may sometimes be based not so much on our historical and physical findings but as on what new and costly machines we have available to help us — the technological imperative.

These devices will not, however, define the normal for us nor will they assess the importance of abnormal findings which don't seem to relate to any particular process. Schwartz and his colleagues¹ have recently reexamined the normal finding and have attempted to derive techniques by which the presence of normal diagnostic tests can help exclude certain diseases. Differential diagnosis is an exercise in medical probability so that the law of diminishing diagnostic returns must apply, thus limiting the value of compulsory completeness and of practicing defensive medicine. It is comforting then to know that sound differential diagnosis can be based on normal as well as abnormal

findings. When probability theory confirms what good diagnosticians have recognized through the centuries we need stand less in awe of our wonderful machines and can consider them our tools rather than our supervisors.

But what of abnormal findings without residence disease or syndrome? We will have to wait for more data. Take Dupuytren's contracture. Most of us recognize this process — contracture of the palmar aponeurosis and the formation of nodules in the fascia often associated with alcoholic cirrhosis, cerebral vascular disease, arteriosclerotic heart disease, chronic obstructive lung disease, particularly in the male. Now Bailey and his associates² have helped us a bit by demonstrating that contractures and even apparently unaffected aponeuroses contain Type I collagen which is made up of three identical polypeptide chains rather than the two different chains contained in Type I collagen which comprises the normal aponeurosis. Injuries which induce alterations in collagen metabolism leading to increased Type III production are probably inflammatory in nature. But we remain ignorant of the stimulus which provokes the response and unaware of why it is associated with such chronic processes. Thus does ignorance limit our acquiescence to the technological imperative!

J.H.

References

1. Gorry GA, Pauker SG, Schwartz WB: The diagnostic importance of the normal finding. *N Engl J Med* 298:486-489, 1978.
2. Bailey AJ, Sims TJ, Gabbiani G, Basin S, LeLous M: Collagen of Dupuytren's disease. *Clin Sci Mol Med* 53:499-502, 1977.

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INDICATIONS: Therapeutically, (as an adjunct to therapy when indicated), for topical infections, primary or secondary, due to susceptible organisms, as in burns, skin grafts, surgical incisions, otitis media; primary pyodermas (impetigo, ecthyma, vulgaris, paronychia); secondarily infected lesions (eczema, herpes, and seborrheic dermatitis); traumatic lesions, inflamed or suppurating as a result of bacterial infection. Prophylactically, the

ointment may be used to prevent bacterial contamination in burns, skin grafts, incisions, and other clean lesions. For abrasions, minor cuts and wounds accidentally incurred, its use may prevent the development of infection and permit wound healing.

CONTRAINDICATIONS: This product is contraindicated in those individuals who have shown hypersensitivity to any of its components. Do not use in the eyes or in the external ear canal if the eardrum is perforated.

WARNING: Because of the potential hazard of nephrotoxicity and ototoxicity due to neomycin, care should be exercised when using this product in treating extensive burns, trophic ulceration and other extensive conditions where absorption of neomycin is possible. In burns where more than 20 percent of the body surface is affected, especially if the patient has impaired renal function or is receiving other aminoglycoside antibiotics concurrently, not more than one application a day is recommended.

When using neomycin-containing products to control

secondary infection in the chronic dermatoses, it should be borne in mind that the skin is more liable to become sensitized to many substances, including neomycin. The manifestation of sensitization to neomycin is usually a low grade reddening with swelling, dry scaling and itching, it may be manifest simply as failure to heal. During long-term use of neomycin-containing products, periodic examination for such signs is advisable and the patient should be told to discontinue the product if they are observed. These symptoms regress quickly on withdrawing the medication. Neomycin-containing applications should be avoided for that patient thereafter.

PRECAUTIONS: As with other antibacterial preparations, prolonged use may result in overgrowth of nonsusceptible organisms, including fungi. Appropriate measures should be taken if this occurs.

ADVERSE REACTIONS: Neomycin is a not uncommon cutaneous sensitizer. Articles in the current literature indicate an increase in the prevalence of persons allergic to neomycin. Ototoxicity and nephrotoxicity have been reported (see Warning section).

Complete literature available on request from Professional Services Dept. PML.

Bulletin Board

NEW MEMBERS of the State Society

Bowyer, Allen Frank, MD 315 King George Road, Greenville 27834
Darden, Bruce Vaiden, II (STUDENT) 5-N Old Well Apts.,
Carrboro 27510
Elkins, Irving Barefoot, MD, (U) 101 W. 27th St., Lumberton 28358
Ludolph, Carol Ann (INTERN-RESIDENT) 200 Pinegate Circle,
Apt. 6, Chapel Hill 27514
Miller, Edward D. (STUDENT) 1105 Virginia Avenue, Durham
27705
Pittman, Ms. Martha Anderson (STUDENT) N-8 Berkshire Manor,
Carrboro 27510
Schulten, Herbert John, MD, (ORS) 1375 4th St. Dr. NW, Hickory
28601
Snowronek, David Gordon, MD, (EM) 11 Spicewood Lane, Salis-
bury 28144
Young, William Lee, III, MD, (FP) 210 13th Ave., Place, NW,
Hickory 28601

WHAT? WHEN? WHERE? In Continuing Education

Please note: 1. The Continuing Medical Education Programs at Bowman Gray, Duke, East Carolina and UNC Schools of Medicine, Dorothea Dix, Wayne County Hospital and Burroughs Wellcome Company are accredited by the American Medical Association. Therefore CME programs sponsored or co-sponsored by these schools automatically qualify for AMA Category 1 credit toward the AMA's Physicians Recognition Award, and for North Carolina Medical Society Category A credit. Where AAFP credit has been requested or obtained, this also is indicated.

2. The "place" and "sponsor" are indicated for a program only when these differ from the place and source to write "for information."

PROGRAMS IN NORTH CAROLINA

March 1-2

Cancer and the Primary Care Physician
Place: Appalachian State University
For Information: Office of Continuing Medical Education, East Tennessee State University, Johnson City, Tennessee 37601

March 3-4

Anesthesiology
For Information: David Brown, M.D., Department of Anesthesiology, UNC School of Medicine, Chapel Hill 27514

March 7-10

Internal Medicine 1979
Place: Berryhill Hall
Fee: \$150
Credit: 25 hours
For Information: William Wood, M.D., Director of Continuing Education, UNC School of Medicine, 319 MacNider Building 202-H, Chapel Hill 27514

March 9-10

Frank R. Lock Symposium in Obstetrics and Gynecology
Fee: \$125
Credit: 10 hours
For Information: Emery Miller, M.D., Associate Dean for Continuing Education, Bowman Gray School of Medicine, Winston-Salem 27103

March 9-11

Evoked Potential Seminar
Fee: \$300
Credit: 24 hours
For Information: C. W. Erwin, M.D., Duke University Medical Center, Durham 27710

March 14

Recent Advances in Surgical Care
Place: Pitt County Memorial Hospital, Greenville
Fee: \$15
Credit: 3 hours; AMA Category 1
For Information: F. M. Simmons Patterson, M.D., Assistant Director for Continuing Education, East Carolina University School of Medicine, Greenville 27834

March 17-18

Neuro-Muscular Disease Symposium
Fee: \$40
Credit: 11 hours
For Information: William Wood, M.D., Director of Continuing Education, UNC School of Medicine, 319 MacNider Building 202-H, Chapel Hill 27514

March 24

Our Adolescents, Their Changing World
Place: Babcock Auditorium, Bowman Gray School of Medicine
Sponsors: Forsyth County Auxiliary, North Carolina State Auxiliary and the North Carolina Medical Society
For Information: Mrs. Mary Jane Means, P.O. Box 27167, Raleigh 27611

March 29-30

3rd Annual Symposium of the Cancer Research Center: Cancer and the Macrophage
Sponsor: The Cancer Research Center and the Department of Immunology and Immunology
Place: Clinic Auditorium
For Information: Mimi Minkoff, Cancer Research Center, Box 2600, Burnett-Womack Building, 229H, UNC School of Medicine, Chapel Hill 27514

March 31-April 1

4th Annual Radiology Update
Fee: \$50
Credit: 10 hours
For Information: Emery Miller, M.D., Associate Dean for Continuing Education, Bowman Gray School of Medicine, Winston-Salem 27103

April 2-6

7th Annual Tutorial — Radiology of the Chest
Sponsor: The Department of Radiology, Duke University School of Medicine
Fee: \$300
Credit: 30 hours
For Information: Robert McLelland, M.D., Radiology-Box 3800, Duke University School of Medicine, Durham 27710

April 6-7

Pediatric Pediatrics

Fee: \$35

Credit: 10 hours

For Information: Emery Miller, M.D., Associate Dean for Continuing Education, Bowman Gray School of Medicine, Winston-Salem 27103

April 10

33rd Annual Greensboro Academy of Medicine Symposium on Rheumatology and Immunology

Place: Jefferson Standard Club

Fee: None

For Information: Robert M. Gay, M.D., Moses H. Cone Memorial Hospital, Greensboro 27420

April 11

Current Clinical Problems in Family Practice

Place: Pitt County Memorial Hospital, Greenville

Fee: \$15

Credit: 3 hours

For Information: F. M. Simmons Patterson, M.D., Assistant Dean for Continuing Education, East Carolina University School of Medicine, Greenville 27834

April 12

33rd Annual Medical Symposium — Greensboro Academy of Medicine

Place: Jefferson Standard Club

Fee: None

Credit: 6 hours, AMA Category 1 and AAFP

For Information: Robert M. Gay, M.D., Moses Cone Memorial Hospital, Greensboro 27420

April 18-20

Gernon's Conference on Mental Health

Place: Raleigh Civic Center

For Information: Mrs. Margaret Riddle, Department of Administration, 116 Jones Street, Raleigh 27603

April 18-20

Rainey Orthopedic Lectures

Place: Berryhill Hall

For Information: William Wood, M.D., Director of Continuing Education, UNC School of Medicine, 319 MacNider Building 202-H, Chapel Hill 27514

April 19

8th Annual New Bern Symposium — Endocrinology and Metabolism

For Information: William B. Hunt, Jr., M.D., Symposium Director, P.O. Box 2157, New Bern 28560

April 20-21

E. C. Hamblen Symposium on Reproductive Endocrinology

Place: Duke University Medical Center

Fee: \$100

Credit: 10½ hours

For Information: R. H. Wiebe, M.D., Duke University Medical Center, Durham 27710

April 27-28

12th Malignant Disease Symposium

Fee: \$90

Credit: 9 hours

For Information: William Wood, M.D., Director of Continuing Education, UNC School of Medicine, 319 MacNider Building 202-H, Chapel Hill 27514

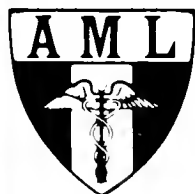
April 27-28

Perspectives on Pain Management

Fee: \$100

Credit: 12 hours

For Information: Emery Miller, M.D., Associate Dean for Con-



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tinuing Education, Bowman Gray School of Medicine,
Winston-Salem 27103

May 2-3

Annual Meeting of the North Carolina Thoracic Society
Place: Royal Villa, Raleigh
For Information: Mr. C. Scott Venable, Executive Director, North
Carolina Lung Association, P.O. Box 127, Raleigh 27602

May 3-6

125th Annual Session of the North Carolina Medical Society
Place: Pinehurst Hotel and Country Club, Pinehurst
For Information: Mr. William N. Hilliard, Executive Director,
North Carolina Medical Society, P.O. Box 27167, Raleigh 27611

May 9-10

Respiratory Care Symposium: Breath of Spring 1979
Fee: \$35
Credit: 10 hours
For Information: Emery Miller, M.D., Associate Dean for Con-
tinuing Education, Bowman Gray School of Medicine,
Winston-Salem 27103

May 18-19

5th Annual Course in Perinatology
Fee: \$50
Credit: 9 hours
For Information: William Wood, M.D., Director of Continuing
Education, UNC School of Medicine, 319 MacNider Building
202-H, Chapel Hill 27514

May 23-25

North Carolina Heart Association Annual Meeting and Scientific
Session
Place: Winston-Salem Hyatt House
For Information: North Carolina Heart Association, 1 Heart Circle,
Chapel Hill 27514

June 9

Update in Ophthalmology
Place: 105 Berryhill Hall
Fee: \$30
Credit: 3 hours
For Information: William Wood, M.D., Director of Continuing
Education, UNC School of Medicine, 319 MacNider Building
202-H, Chapel Hill 27514

June 20-21

Surgery Symposia
Place: Appalachian State University
For Information: Office of Continuing Medical Education, East
Tennessee State University, Johnson City, Tennessee 37601

June 21-23

Practical Dermatology
Place: Emerald Isle
Fee: \$50
Credit: 7 hours
For Information: W. M. Sams, Jr., M.D., N.C. Memorial Hospital,
Chapel Hill 27514

June 21-23

Mountain Top Medical Assembly
Place: Waynesville Country Club
For Information: Clinton L. Border, Jr., M.D., 204 Depot Street,
Waynesville 28786

July 9-13

Duke University Medical Center Postgraduate Course
Place: Atlantic Beach
Fee: \$175
Credit: 30 hours
For Information: M. Henderson Rourke, M.D., Director of Con-
tinuing Medical Education, Duke University Medical Center,
Durham 27710

July 12-14

First Annual Mountain Workshop
Place: Asheville
Fee: \$100
Credit: 12 hours
For Information: Emery C. Miller, M.D., Associate Dean for Con-
tinuing Education, Bowman Gray School of Medicine,
Winston-Salem 27103

July 30-August 4

Diagnostic Radiology Including Ultrasound, CT Scanning and
Nuclear Medicine
Place: Atlantic Beach
Fee: \$200
Credit: 30 hours
For Information: Robert McLelland, M.D., Radiology-Box 380
Duke University School of Medicine, Durham 27710

August 10-11

Electron Microscopy in Diagnostic Pathology
Place: Babcock Auditorium
Fee: \$90
Credit: 7 hours
For Information: Emery C. Miller, M.D., Associate Dean for Con-
tinuing Education, Bowman Gray School of Medicine,
Winston-Salem 27103

ITEMS OF SPECIAL INTEREST

March 5-8

18th National Conference of the Detection and Treatment of Breast
Cancer
Place: Atlanta, Georgia
Sponsor: American College of Radiology
For Information: American College of Radiology, 6900 Wisconsin
Avenue, Chevy Chase, Maryland 20015

March 30-31

Practical Internal Medicine for the Practitioner
Place: Ochsner Medical Institutions
Fee: \$110; residents \$55
Credit: 12 hours
For Information: Continuing Education, Alton Ochsner Medical
Foundation, 1516 Jefferson Highway, New Orleans, Louisiana
70121

May 6-10

2nd International Symposium on Adolescent Medicine
Place: Mayflower Hotel, Washington, D.C.
Sponsor: The Society for Adolescent Medicine
Fee: \$150
For Information: The Institute for Continuing Education, P.O. Box
11083, Richmond, Virginia 23230

June 29-30

Medical Horizons: Hypertension and Cardiovascular Disease
Place: Myrtle Beach, South Carolina
Fee: \$150
Credit: 10 hours
For Information: Emery C. Miller, M.D., Associate Dean for Con-
tinuing Education, Bowman Gray School of Medicine,
Winston-Salem 27103

July 30-August 3

Seventh Annual Beach Workshop
Place: Myrtle Beach, South Carolina
Fee: \$150
Credit: 20 hours
For Information: Emery C. Miller, M.D., Associate Dean for Con-
tinuing Education, Bowman Gray School of Medicine,
Winston-Salem 27103

PROGRAMS IN CONTIGUOUS STATES

March 7-9

Nine Non-Internal Medicine Topics for the General Internist
Place: Mills Hyatt House Hotel, Charleston, South Carolina
Fee: \$125
Credit: 17½ hours
For Information: Gail M. Hogan, Division of Continuing Edu-
cation, MUSC, 171 Ashley Avenue, Charleston, South Carolina
29403

March 16-18

South Carolina Regional Meeting — American College of Phy-
sicians
Place: Kiawah Inn, Kiawah Island
For Information: Clarence W. Legerton, Jr., FACP, Medical Un-
iversity Hospital, Charleston, South Carolina 29401

April 6-7

32 Annual Stoneburner Lecture Series — New Concepts in Oncology

Management of Chronic Obstructive Pulmonary Disease
and Asthma
at: Medical College of Virginia, Richmond
Fee: \$95
Time: 9 1/4 hours
Information: Ms. Glenda Snow, Continuing Medical Education,
Medical College of Virginia, Box 91, MCV Station, Richmond,
Virginia 23298

April 27-28

Emergency Medicine for the Primary Care Physician
at: Hotel Roanoke, Roanoke, Virginia
Information: Ms. Glenda Snow, Continuing Medical Education,
Medical College of Virginia, Box 91, MCV Station, Richmond,
Virginia 23298

News Notes from the—

DUKE UNIVERSITY MEDICAL CENTER

Physicians at the Comprehensive Cancer Center
have begun a series of studies that could save money
and time for patients getting cancer examinations.
By showing how to save money for these patients,
these studies could also help hold down the cost of
health insurance for perhaps millions of other Americans.

The studies will compare three ways of diagnosing
cancer — computerized tomographic (CT) scanning,
gamma camera scanning and ultrasound. Duke

radiologists want to learn which method, or combination
of methods, proves most useful for finding certain
types of cancerous tumors.

"We'll be defining the extent of disease, showing
changes, following the disease after treatment and
finding new areas of spread," said Dr. Charles E.
Putman, director of radiological activities for the
Cancer Center.

"We're interested in early detection, eventually.
We're also interested in cost-saving and cost-
effectiveness. All of these modalities are expensive.
Hopefully, we can save patients some money."

* * *

Dr. William W. Shingleton, director of the Comprehensive Cancer Center, has been named chairman
of the committee that will select finalists for the first
\$100,000 Kettering Prize, to be awarded by the General
Motors Cancer Research Foundation.

The prize will honor the "most outstanding recent
contribution to the diagnosis and treatment of
cancer," according to the foundation.

* * *

The Department of Health, Education and Welfare
has awarded the medical center an additional year of
funding for an interdisciplinary health team training
project.

The project was established in 1977 as a joint ven-

TEGA-SPAN CAPELLETS

TEGA-SPAN CAPELLETS FOR MORE ADVANCED NICOTINIC ACID THERAPY

Each capsule contains: . . . 400 mg of pure pelletized
Nicotinic Acid

INDICATIONS: Tega-Span is indicated where reduction of serum cholesterol and total
lipid levels in hypercholesterolemia and hyperlipemia is desirable. It may also be useful in
reducing xanthomatous tissue cholesterol deposits.

DOSAGE AND ADMINISTRATION: Usual dose is one or two capellets twice daily with or
after meals. Since lower doses may control hyperlipidemia in some patients, the dosage
should be individualized according to the effect on serum lipid levels. It is also to be noted
that adverse reactions appear with greater frequency early in therapy; in order to avoid
these it may be best to start the drug at low levels and increase dosage gradually.

Federal Law prohibits dispensing without a prescription

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ture of residents of the Parkwood community and the Department of Community and Family Medicine.

The amount of the grant is \$117,739. The program director is Dr. Michael Hamilton, assistant professor of community and family medicine and chief of the Division of Health Team Development. Dr. John P. Hansen, assistant professor of community and family medicine and director of University Health Services, is co-director.

* * *

More than 100 families of Duke patients have received extra love and support through an unusual people-to-people program.

The program is Host Homes, a joint effort of the Chaplain's Service and Durham Congregations in Action.

Host Homes seeks to provide patients' families with free or inexpensive accommodations in private homes where people care.

"People who come from out of town, and often from out of state, are placed under a lot a stress," said Nancy Hope, developer and coordinator of the program. "They are confronted with a large hospital, a strange city and expensive motels that greatly add to the stress they are already feeling."

The Host Homes Program tries to to relieve some of that stress by offering patients' families a homelike atmosphere. So far, 24 people in Durham have opened up their homes to family members of Duke patients.

* * *

Dr. Roscoe R. (Ike) Robinson, associate vice president for health affairs and chief executive officer of Duke Hospital, has been named Florence McAlister Professor of Medicine.

Robinson succeeds retiring Dr. Eugene A. Stead in the McAlister professorship.

* * *

Dr. Robert H. Wilkins, professor and chief of the Division of Neurosurgery, has been named president-elect of the Congress of Neurological Surgeons.

* * *

In an effort to improve residency training available to family physicians, the W. K. Kellogg Foundation of Battle Creek, Mich., has awarded a four-year, \$645,932 grant to the Duke-Watts Family Medicine Program.

The Family Medicine Program is directed by Dr. William J. (Terry) Kane. It is a joint effort of Duke's Department of Community and Family Medicine and the Durham County Hospital Corporation.

* * *

Dr. James F. Glenn, professor and chief of the Division of Urologic Surgery, has been elected vice presi-

Tenuate®
(diethylpropion hydrochloride NF)

Tenuate Dospan®
(diethylpropion hydrochloride NF) controlled-release

AVAILABLE ONLY ON PRESCRIPTION

Brief Summary

INDICATION: Tenuate and Tenuate Dospan are indicated in the management of exogenous obesity as a short-term adjunct (a few weeks) in a regimen of weight reduction based on caloric restriction. The limited usefulness of agents of this class should be measured against possible risk factors inherent in their use such as those described below.

CONTRAINDICATIONS: Advanced arteriosclerosis, hyperthyroidism, known hypersensitivity, or idiosyncrasy to the sympathomimetic amines, glaucoma. Agitated states. Patients with a history of drug abuse. During or within 14 days following the administration of monoamine oxidase inhibitors, (hypertensive crises may result).

WARNINGS: If tolerance develops, the recommended dose should not be exceeded in an attempt to increase the effect; rather, the drug should be discontinued. Tenuate may impair the ability of the patient to engage in potentially hazardous activities such as operating machinery or driving a motor vehicle, the patient should therefore be cautioned accordingly. *Drug Dependence.* Tenuate has some chemical and pharmacologic similarities to the amphetamines and other related stimulant drugs that have been extensively abused. There have been reports of subjects becoming psychologically dependent on diethylpropion. The possibility of abuse should be kept in mind when evaluating the desirability of including a drug as part of a weight reduction program. Abuse of amphetamines and related drugs may be associated with varying degrees of psychologic dependence and social dysfunction which, in the case of certain drugs, may be severe. There are reports of patients who have increased the dosage to many times that recommended. Abrupt cessation following prolonged high dosage administration results in extreme fatigue and mental depression, changes are also noted on the sleep EEG. Manifestations of chronic intoxication with anorectic drugs include severe dermatoses, marked insomnia, irritability, hyperactivity, and personality changes. The most severe manifestation of chronic intoxications is psychosis, often clinically indistinguishable from schizophrenia. *Use in Pregnancy.* Although rat and human reproductive studies have not indicated adverse effects, the use of Tenuate by women who are pregnant or may become pregnant requires that the potential benefits be weighed against the potential risks. *Use in Children.* Tenuate is not recommended for use in children under 12 years of age.

PRECAUTIONS: Caution is to be exercised in prescribing Tenuate for patients with hypertension or with symptomatic cardiovascular disease, including arrhythmias. Tenuate should not be administered to patients with severe hypertension. Insulin requirements in diabetes mellitus may be altered in association with the use of Tenuate and the concomitant dietary regimen. Tenuate may decrease the hypotensive effect of guanethidine. The least amount feasible should be prescribed or dispensed at one time in order to minimize the possibility of overdosage. Reports suggest that Tenuate may increase convulsions in some epileptics. Therefore, epileptics receiving Tenuate should be carefully monitored. Titration of dose or discontinuance of Tenuate may be necessary.

ADVERSE REACTIONS: *Cardiovascular:* Palpitation, tachycardia, elevation of blood pressure, precordial pain, arrhythmia. One published report described T-wave changes in the ECG of a healthy young male after ingestion of diethylpropion hydrochloride. *Central Nervous System:* Overstimulation, nervousness, restlessness, dizziness, jitteriness, insomnia, anxiety, euphoria, depression, dysphoria, tremor, dyskinesia, mydriasis, drowsiness, malaise, headache; rarely psychotic episodes at recommended doses. In a few epileptics an increase in convulsive episodes has been reported. *Gastrointestinal:* Dryness of the mouth, unpleasant taste, nausea, vomiting, abdominal discomfort, diarrhea, constipation, other gastrointestinal disturbances. *Allergic:* Urticaria, rash, ecchymosis, erythema. *Endocrine:* Impotence, changes in libido, gynecomastia, menstrual upset. *Hematopoietic System:* Bone marrow depression, agranulocytosis, leukopenia. *Miscellaneous:* A variety of miscellaneous adverse reactions has been reported by physicians. These include complaints such as dyspnea, hair loss, muscle pain, dysuria, increased sweating, and polyuria.

DOSAGE AND ADMINISTRATION: Tenuate (diethylpropion hydrochloride) One 25 mg. tablet three times daily, one hour before meals, and in mid-evening if desired to overcome night hunger. Tenuate Dospan (diethylpropion hydrochloride) controlled-release One 75 mg. tablet daily, swallowed whole, in mid-morning. Tenuate is not recommended for use in children under 12 years of age.

OVERDOSAGE: Manifestations of acute overdosage include restlessness, tremor, hyperreflexia, rapid respiration, confusion, assaultiveness, hallucinations, panic states. Fatigue and depression usually follow the central stimulation. Cardiovascular effects include arrhythmias, hypertension or hypotension and circulatory collapse. Gastrointestinal symptoms include nausea, vomiting, diarrhea, and abdominal cramps. Overdose of pharmacologically similar compounds has resulted in fatal poisoning, usually terminating in convulsions and coma. Management of acute Tenuate intoxication is largely symptomatic and includes lavage and sedation with a barbiturate. Experience with hemodialysis or peritoneal dialysis is inadequate to permit recommendation in this regard. Intravenous phenolamine (Regitine®) has been suggested on pharmacologic grounds for possible acute, severe hypertension, if this complicates Tenuate overdosage.

Product Information as of April, 1976

MERRELL-NATIONAL LABORATORIES Inc.
Cayey, Puerto Rico 00633

Direct Medical Inquiries to

MERRELL-NATIONAL LABORATORIES
Division of Richardson-Merrell Inc.
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References: 1. Citations available on request—Medical Research Department, MERRELL RESEARCH CENTER, MERRELL-NATIONAL LABORATORIES, Cincinnati, Ohio 45215. 2. Hoekenga, M.T., O'Dillon, R.H., and Leyland, H.M. A Comprehensive Review of Diethylpropion Hydrochloride. International Symposium on Central Mechanisms of Anorectic Drugs, Florence, Italy, Jan. 20-21, 1977.

Merrell

8-3921 (Y587A)

**Whether overweight is a
complicating factor...
or just uncomplicated overweight.**

Tenuate[®] Dospan[®] ^{IV} **(diethylpropion hydrochloride NF)**

75 mg. controlled-release tablets

A useful short-term adjunct in an indicated weight loss program.

Overweight patients in certain diagnostic categories often require strict obesity control. Diethylpropion hydrochloride has been reported useful in obese patients with hypertension, symptomatic cardiovascular disease, or diabetes. While it is not suggested that Tenuate in any way reduces these complications in the overweight, it may have a useful place as a short-term adjunct in a prescribed dietary regimen. (Tenuate should not be administered to patients with severe hypertension; see additional Warnings and Precautions on the opposite page.)

In uncomplicated obesity.

Many patients, on the other hand, present with excess fat but no disease. While this condition is often termed uncomplicated obesity, complications of both a social and a psychologic nature may be distressingly real for the patients. In these cases, a short-term regimen of Tenuate can help reinforce your dietary counsel during the important early weeks of an indicated weight loss program.

Clinical effectiveness.

The anorexic effectiveness of diethylpropion hydrochloride is well documented. No less than 16 separate double-blind, placebo-controlled studies attest to its usefulness in daily practice.¹ And the unique chemistry of Tenuate provides "...anorexic potency with minimal overt central nervous system or cardiovascular stimulation."² Compared with the amphetamines, diethylpropion has minimal potential for abuse.

**Tenuate—it makes sense.
And it's responsible medicine.**

Merrell



For prescribing information see opposite page



The evidence of experience

Since October 1974 when Motrin® (ibuprofen) was introduced in the United States, it has been used by more than 6,000,000 patients with rheumatoid arthritis* or osteoarthritis. Rarely has an ethical pharmaceutical product been prescribed for so many patients in so short a time. In addition, more than 450 studies presenting new data related to Motrin have been published.

The 6,000,000 patients already treated with Motrin is an objective measure of physicians' confidence in the ability of Motrin to relieve the pain and inflammation associated with rheumatoid arthritis and osteoarthritis.

So it is not surprising that in this short period Motrin has become the most frequently prescribed alternative to aspirin. Motrin relieves joint pain and inflammation as effectively as indomethacin or aspirin, but causes significantly fewer CNS and milder GI reactions.

However, gastrointestinal bleeding, sometimes severe, has been associated with Motrin, aspirin, indomethacin, and other nonsteroidal antiarthritic agents.

The safety and effectiveness of Motrin have not been established in patients with Functional Class IV rheumatoid arthritis (incapacitated, largely or wholly bedridden, or confined to wheelchair; little or no self-care).




Motrin^{400 mg} TABLETS

ibuprofen, Upjohn

The confidence that comes from experience—
one more reason to prescribe Motrin.

Please turn page for a brief summary of prescribing information.

Upjohn The Upjohn Company, Kalamazoo, Michigan 49001

The confidence that comes from experience—
one more reason to prescribe

Motrin 400mg TABLETS

ibuprofen, Upjohn

Indications and Usage: Treatment of signs and symptoms of rheumatoid arthritis and osteoarthritis during acute flares and in long-term management. Safety and efficacy have not been established in Functional Class IV rheumatoid arthritis.

Contraindications: Individuals hypersensitive to it, or with the syndrome of nasal polyps, angioedema and bronchospastic reactivity to aspirin or other nonsteroidal anti-inflammatory agents (see WARNINGS).

Warnings: Anaphylactoid reactions have occurred in patients with aspirin hypersensitivity (see CONTRAINDICATIONS).

Peptic ulceration and gastrointestinal bleeding, sometimes severe, have been reported. Ulceration, perforation, and bleeding may end fatally. An association has not been established. Motrin should be given under close supervision to patients with a history of upper gastrointestinal tract disease, only after consulting ADVERSE REACTIONS.

In patients with active peptic ulcer and active rheumatoid arthritis, nonulcerogenic drugs, such as gold, should be tried. If Motrin must be given, the patient should be under close supervision for signs of ulcer perforation or gastrointestinal bleeding.

Precautions: Blurred and/or diminished vision, scotomata, and/or changes in color vision have been reported. If these develop, discontinue Motrin and the patient should have an ophthalmologic examination, including central visual fields.

Fluid retention and edema have been associated with Motrin; use with caution in patients with a history of cardiac decompensation.

Motrin can inhibit platelet aggregation and prolong bleeding time. Use with caution in persons with intrinsic coagulation defects and those on anticoagulant therapy.

Patients should report signs or symptoms of gastrointestinal ulceration or bleeding, blurred vision or other eye symptoms, skin rash, weight gain, or edema.

To avoid exacerbation of disease or adrenal insufficiency, patients on prolonged corticosteroid therapy should have therapy tapered slowly when Motrin is added.

Drug interactions. Aspirin used concomitantly may decrease Motrin blood levels. Coumarin. Bleeding has been reported in patients taking Motrin and Coumarin.

Pregnancy and nursing mothers: Motrin should not be taken during pregnancy or by nursing mothers.

Adverse Reactions

Incidence greater than 1%

Gastrointestinal: The most frequent type of adverse reaction occurring with Motrin (ibuprofen) is gastrointestinal (4% to 16%). This includes nausea², epigastric pain², heartburn², diarrhea, abdominal distress, nausea and vomiting, indigestion, constipation, abdominal cramps or pain, fullness of the GI tract (bloating and flatulence). **Central Nervous System:** Dizziness², headache, nervousness. **Dermatologic:** Rash² (including maculopapular type), pruritus. **Special Senses:** Tinnitus. **Metabolic:** Decreased appetite, edema, fluid retention. Fluid retention generally responds promptly to drug discontinuation (see PRECAUTIONS).

Incidence: Unmarked 1% to 3%; *3% to 9%.

Incidence less than 1 in 100

Gastrointestinal: Upper GI ulcer with bleeding and/or perforation, hemorrhage, melena. **Central Nervous System:** Depression, insomnia. **Dermatologic:** Vesiculobullous eruptions, urticaria, erythema multiforme. **Cardiovascular:** Congestive heart failure in patients with marginal cardiac function, elevated blood pressure. **Special Senses:** Amblyopia (see PRECAUTIONS). **Hematologic:** Leukopenia, decreased hemoglobin and hematocrit.

Causal relationship unknown

Gastrointestinal: Hepatitis, jaundice, abnormal liver function. **Central Nervous System:** Paresthesias, hallucinations, dream abnormalities. **Dermatologic:** Alopecia, Stevens-Johnson syndrome. **Special Senses:** Conjunctivitis, diplopia, optic neuritis. **Hematologic:** Hemolytic anemia, thrombocytopenia, granulocytopenia, bleeding episodes. **Allergic:** Fever, serum sickness, lupus erythematosus syndrome. **Endocrine:** Gynecomastia, hypoglycemia. **Cardiovascular:** Arrhythmias. **Renal:** Decreased creatinine clearance, polyuria, azotemia.

Overdosage: In cases of acute overdosage, the stomach should be emptied. The drug is acidic and excreted in the urine, so alkaline diuresis may be beneficial.

Dosage and Administration: Suggested dosage is 300 or 400 mg t.i.d. or q.i.d. Do not exceed 2400 mg per day.

How Supplied

Motrin Tablets, 300 mg (white)

Bottles of 60

Bottles of 500

Motrin Tablets, 400 mg (orange)

Bottles of 60

Bottles of 500

Unit-dose package of 100

Unit of Use bottles of 120

Caution: Federal law prohibits dispensing without prescription

NDC 0009-0733-01

NDC 0009-0733-02

NDC 0009-0750-01

NDC 0009-0750-02

NDC 0009-0750-06

NDC 0009-0750-26



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TABLETS: 500 mg, 250 mg, and 125 mg



The Upjohn Company
Kalamazoo, Michigan 49001

NIM-3

dot of Alpha Omega Alpha (AOA), national medical honor society.

His selection came at AOA's annual meeting, held recently in New Orleans.

* * *

Dr. E. Harvey Estes, professor and chairman of the Department of Community and Family Medicine, has been appointed by Gov. James B. Hunt Jr. to the Commission on Prepaid Health Plans.

* * *

Dr. Robert Machemer, professor and chairman of the Department of Ophthalmology, has received a \$2,000 Trustees Award from Research to Prevent Blindness, Inc. (RPB), the world's leading voluntary organization in support of eye research.

Machemer received the prestigious award at the scientific meeting of the American Academy of Ophthalmology in Kansas City.

The award is based on Machemer's invention of the V/C (vitreous-infusion-suction-cutter), an instrument that allowed eye surgeons for the first time to remove and replace the vitreous safely, when the acid clouds up and blocks vision.

News Notes from the—

EAST CAROLINA UNIVERSITY SCHOOL OF MEDICINE

Dr. Charles Rob, professor of surgery at the ECU School of Medicine, has been elected an Honorary Fellow of the Surgical Society of Sweden.

Rob, one of 12 surgeons in the world to hold the honor, was presented the distinction at a national meeting of Swedish physicians held in Stockholm in December. Rob was presenting a paper to the group on the prevention of strokes.

Rob received the honor for his pioneer work in vascular surgery. He is responsible for training several of the vascular surgeons in Sweden, including the chief vascular surgeon at Karolinska Hospital and Institute, the awarding agent for the Nobel Prize.

The recipient of the 1975 Rene Leriche Prize for the most valuable work on the arteries, veins and the heart, Rob began his research shortly after World War II and is credited with being a pioneer for his contributions to the field.

He is past president of the International Cardiovascular Society and currently serves as vice president of the American Surgical Association.

Rob, who also directs ECU's vascular laboratory at Pitt County Memorial Hospital, joined the medical school faculty in July.

* * *

professor of anatomy at the ECU School of Medi-

cine was invited to serve on a committee reviewing a section of the Surgeon General's "Report on Smoking and Health" prior to publication.

Dr. R. Frederick Becker was one of a small group of researchers from across the United States who met in Los Angeles in December to compile a critical review of the section on smoking and pregnancy included in the report.

Coordinated by the National Institutes of Health, the committee examined current data and studies dealing with the effects of smoking on the fetus and issued a recommendation on the accuracy and focus of that section of the report.

Becker has been studying the effects of nicotine on the placenta of the fetus since 1965. He has done extensive research on the anatomy and physiology of the fetus and co-authored several books considered to be classic textbooks in anatomy.

* * *

Dr. Yash P. Kataria, a specialist in pulmonary disease, has been appointed associate professor in the Department of Medicine at ECU. In addition to teaching responsibilities, Kataria will assist in the further development of a lung function test lab and a pulmonary immunology lab in the Medical School Teaching Addition at Pitt County Memorial Hospital.

A native of India, Kataria received his M.D. from Glancy Medical College, Punjab, India. He did post-graduate training at the Liverpool School of Tropical

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Medicine, England, and the Welsh National School of Medicine, University of Wales, where he also has a faculty appointment in the Department of Tuberculosis and Chest Diseases. He completed his residency training at Mount Sinai Hospital Medical Center, Chicago.

Kataria formerly was assistant professor of medicine and director of pulmonary laboratories at the Ohio State University College of Medicine. He has done extensive research on sarcoidosis.

* * *

Dr. Charles A. Hodson, a reproductive physiologist, has been appointed assistant professor of obstetrics and gynecology. He will develop the department's research laboratory at Pitt County Memorial Hospital.

Hodson's research concerns drugs affecting fertility and the effects of the aging process on the reproductive system. He also has been interested in the influence of hormones on milk secretion.

He received his undergraduate, master's and Ph.D. degrees from Iowa State University. Prior to joining ECU, he was a research fellow at Michigan State University.

* * *

Dr. Janice Daugherty Rawl, a first-year resident, has been elected secretary-treasurer of the North Carolina Association of Family Practice Residents.

She is receiving her training at the Eastern Carolina Family Practice Center operated by the ECU Department of Family Practice.

News Notes from the—

BOWMAN GRAY SCHOOL OF MEDICINE WAKE FOREST UNIVERSITY

The Bowman Gray School of Medicine has joined North Carolina Baptist Hospital and Forsyth Memorial Hospital in the creation of a complex for rehabilitation in Forsyth County.

The opening of a 38-bed rehabilitation unit, offering short-term services and family instruction, at Baptist Hospital was the final action needed to make the complex a reality.

The complex, first envisioned in the early 1970s, brings together the John C. Whitaker Regional Rehabilitation Center at Forsyth Memorial, Baptist's new unit and the R. Gardner Kellogg Memorial Program for Physical Medicine and Rehabilitation at Bowman Gray.

Creation of the complex is part of a community-wide effort to reduce duplication of services, increase

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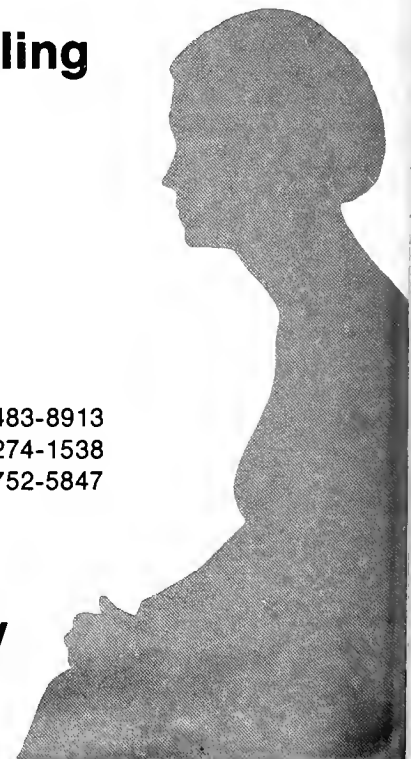
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cooperation between medical institutions in the county and to reduce health care costs.

Dr. Edwin H. Martinat, medical director of the Whitaker Care Center and clinical associate professor of rehabilitation medicine at Bowman Gray, is coordinator of the new unit at Baptist Hospital. Dr. Henry S. Miller Jr., professor of medicine at Bowman Gray, is the unit's associate coordinator for medical programs.

The Whitaker Care Center offers long-term comprehensive rehabilitation services for the region while the Kellogg program exists to further the care of severely disabled patients through the teaching of rehabilitative medicine to health professionals.

A North Carolina plan for rehabilitative services calls for the creation of rehabilitation units in acute hospitals throughout the state. Baptist's new unit is the first to open under that plan.

* * *

Dr. Stephen A. Yokeley, a Dobson dentist, has been named dental education director for the Northwest Area Health Education Center, headquartered at the Bowman Gray School of Medicine.

He will be responsible for planning and developing continuing education programs for dentists, dental hygienists and dental assistants throughout the 16-county AHEC region.

* * *

Dr. Robert B. Taylor, associate professor of family medicine at Bowman Gray, was the editor for a new medical guide which has been described as "the most comprehensive textbook of family medicine ever compiled."

Taylor's "Family Medicine: Principles and Practice" contains contributions from 133 family medicine practitioners and educators from across the United States, Canada and abroad.

The book contains contributions from two current and one former Bowman Gray faculty members, Drs. Charles H. Duckett and H. P. Van Cleve, both associate professors of family medicine, and Dr. Thomas Cannon, who is now in private practice in Winston-Salem.

Taylor and his wife, Anita, are the authors of a recently published book entitled *Couples: The Art of Staying Together*.

* * *

Bowman Gray researchers are conducting a study to determine whether blood platelet measurements can be useful in predicting a person's chances of developing atherosclerosis.

Dr. William D. Wagner, associate professor of comparative medicine, heads the three-year project, which has been funded with a grant from the American Heart Association and the Palm Beach (Fla.) Heart Association.

In the study, Wagner said that nine African green monkeys are being fed a high-cholesterol diet to induce atherosclerosis in 24 months. During that period,

the researchers will evaluate the monkeys' platelets to see whether platelet function is altered. At the end of 24 months, the monkeys will be studied to determine the extent and severity of their atherosclerosis.

Results of the study may permit doctors to reliably predict the presence of atherosclerosis from an analysis of the chemical and physical properties of patient's platelets.

* * *

Five fulltime and five part-time faculty members have been appointed to the Bowman Gray faculty.

They are Dr. Vincent J. D'Souza, assistant professor of radiology (cardiovascular/peripheral vascular); Michael E. Arrowood, instructor in allied health (physician assistant program); Leonard S. Avecil, instructor in allied health (medical sonics); Dr. Christopher J. Hubbard, lecturer in anatomy; and Dr. William J. Treadway Jr., research instructor in medicine (rheumatology).

Receiving appointments to the part-time faculty were Dr. Russell L. Blaylock, clinical instructor in surgery (neurological surgery); Dr. Philip M. Clifton, clinical instructor in psychiatry; Dr. Leroy George Hoffman, clinical instructor in pediatrics; Dr. Paul Leone, clinical instructor in obstetrics/gynecology; and Dr. Tad W. Lowdermilk, clinical instructor in surgery (emergency medicine).

* * *

Dr. Frederick A. Blount, assistant professor of pediatrics, has been re-elected to the Board of Directors of the North Carolina Peer Review Foundation.

* * *

Dr. Lawrence R. DeChatelet, professor of chemistry, has been elected to a four-year term as councilor in the Reticuloendothelial Society.

* * *

Dr. Julian F. Keith, professor and chairman of the Department of Family Medicine; Dr. Charles H. Duckett, associate professor of family medicine; and Dr. Donald L. Copeland, associate professor of family medicine, have been recertified as diplomates of the American Board of Family Practice for seven-year terms.

News Notes from the

UNIVERSITY OF NORTH CAROLINA- CHAPEL HILL SCHOOL OF MEDICINE AND NORTH CAROLINA MEMORIAL HOSPITAL

Dr. Clayton E. Wheeler Jr., chairman of dermatology, directed a session on viral infections at the Southeastern Seaboard Consortium for Continuing Medical education in Dermatology in Atlanta.

As chairman of the Residency Review Committee

Dyazide[®]

Each capsule contains 50 mg of Dyrenium[®] (brand of triamterene) and 25 mg of hydrochlorothiazide

Makes Sense in Hypertension*

Before prescribing, see complete prescribing information in SK&F Co. literature or PDR. A brief summary follows:

* Warning

This drug is not indicated for initial therapy of edema or hypertension. Edema or hypertension requires therapy titrated to the individual. If this combination represents the dosage so determined, its use may be more convenient in patient management. Treatment of hypertension and edema is not static, but must be reevaluated as conditions in each patient warrant.

Contraindications: Further use in anuria, progressive renal or hepatic dysfunction, hyperkalemia. Pre-existing elevated serum potassium. Hypersensitivity to either component or other sulfonamide-derived drugs.

Warnings: Do not use potassium supplements, dietary or otherwise, unless hypokalemia develops or dietary intake of potassium is markedly impaired. If supplementary potassium is needed, potassium tablets should not be used. Hyperkalemia can occur, and has been associated with cardiac irregularities. It is more likely in the severely ill, with urine volume less than one liter/day, the elderly and diabetics with suspected or confirmed renal insufficiency. Periodically, serum K⁺ levels should be determined. If hyperkalemia develops, substitute a thiazide alone, restrict K⁺ intake. **Associated widened QRS complex or arrhythmia requires prompt additional therapy.** Thiazides cross the placental barrier and appear in cord blood. Use in pregnancy requires weighing anticipated benefits against possible hazards, including fetal or neonatal jaundice, thrombocytopenia, other adverse reactions seen in adults. Thiazides appear and triamterene may appear in breast milk. If their use is essential, the patient should stop nursing. Adequate information on use in children is not available.

Precautions: Do periodic serum electrolyte determinations (particularly important in patients vomiting excessively or receiving parenteral fluids). Periodic BUN and serum creatinine determinations should be made, especially in the elderly, diabetics or those with suspected or confirmed renal insufficiency. Watch for signs of impending coma in severe liver disease. If spiro-nolactone is used concomitantly, determine serum K⁺ frequently, both can cause K⁺ retention and elevated serum K⁺. Two deaths have been reported with such concomitant therapy (in one, recommended dosage was exceeded, in the other serum electrolytes were not properly monitored). Observe regularly for possible blood dyscrasias, liver damage, other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving triamterene, and leukopenia, thrombocytopenia, agranulocytosis, and aplastic anemia have been reported with thiazides. Triamterene is a weak folic acid antagonist. Do periodic blood studies in cirrhotics with splenomegaly. Antihypertensive effect may be enhanced in post-sympathectomy patients. Use cautiously in surgical patients. The following may occur: transient elevated BUN or creatinine or both, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), hyperuricemia and gout, digitalis intoxication (in hypokalemia), decreasing alkali reserve with possible metabolic acidosis. Dyazide interferes with fluorescent measurement of quindine.

Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth, anaphylaxis, rash, urticaria, photosensitivity, purpura, other dermatological conditions, nausea and vomiting, diarrhea, constipation, other gastrointestinal disturbances. Necrotizing vasculitis, paresthesias, icterus, pancreatitis, xanthopsia and, rarely, allergic pneumonitis have occurred with thiazides alone.

Supplied: Bottles of 100 and 1000 capsules. Single Unit Packages of 100 (intended for institutional use only).

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**When painful spasm
is the presenting
symptom...**



in functional G.I. disorders*

Bentyl[®]

(dicyclomine hydrochloride USP)

10 mg. capsules, 20 mg. tablets,
10 mg./5 ml. syrup, 10 mg./ml. injection

helps control abnormal motor activity
with minimal anticholinergic side effects[†]

Demonstrated smooth muscle relaxant activity.

In this double-blind study, twenty patients having G.I. series and exhibiting spasm were randomly selected to receive either 2 cc. of Bentyl or sodium chloride intramuscularly. Ten minutes after the injection another radiograph was taken . . .

. . . Bentyl produced definite relaxation in 8 of 10 patients. The sodium chloride produced relaxation in only 3 of 10. No side effects occurred in either group of patients.



Pylorospasm has almost totally blocked passage of barium meal.



Barium meal beginning to pass 10 minutes after intramuscular injection of 20 mg. Bentyl.

"The correlation of spasm relief and drug given was excellent."

*This drug has been classified "probably" effective in treating certain functional G.I. disorders.

†See Warnings, Precautions and Adverse Reactions

See following page for prescribing information.

Reference

King, J.C. and Starkman, N.M. Evaluation of an antispasmodic. Double-blind evaluation to control gastrointestinal spasms occurring during radiographic examination. A preliminary report. Western Med. 5:356-358, 1964

Merrell

Bentyl®

(dicyclomine hydrochloride USP)

Capsules, Tablets, Syrup, Injection
AVAILABLE ONLY ON PRESCRIPTION.

Brief Summary INDICATIONS

For use as adjunctive therapy in the treatment of peptic ulcer. IT SHOULD BE NOTED AT THIS POINT IN TIME THAT THERE IS A LACK OF CONCURRENCE AS TO THE VALUE OF ANTICHOLINERGICS/ANTISPASMODICS IN THE TREATMENT OF GASTRIC ULCER. IT HAS NOT BEEN SHOWN CONCLUSIVELY WHETHER ANTICHOLINERGIC/ANTISPASMODIC DRUGS AID IN THE HEALING OF A PEPTIC ULCER, DECREASE THE RATE OF RECURRENCES, OR PREVENT COMPLICATION.

Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FDA has classified the following indications as "probably" effective.

May also be useful in the irritable bowel syndrome (irritable colon, spastic colon, mucous colitis, acute enterocolitis, and functional gastrointestinal disorders), and in neurogenic bowel disturbances (including the splenic flexure syndrome and neurogenic colon).

THESE FUNCTIONAL DISORDERS ARE OFTEN RELIEVED BY VARYING COMBINATIONS OF SEDATIVE, REASSURANCE, PHYSICIAN INTEREST, AMELIORATION OF ENVIRONMENTAL FACTORS.

For use in the treatment of infant colic (syrup).

Final classification of the less-than-effective indications requires further investigation.

CONTRAINDICATIONS: Obstructive uropathy (for example, bladder neck obstruction due to prostatic hypertrophy), obstructive disease of the gastrointestinal tract (as in achalasia, pyloroduodenal stenosis), paralytic ileus, intestinal atony of the elderly or debilitated patient, unstable cardiovascular status in acute hemorrhage, severe ulcerative colitis, toxic megacolon complicating ulcerative colitis, myasthenia gravis. **WARNINGS:** In the presence of a high environmental temperature, heat prostration can occur with drug use (fever and heat stroke due to decreased sweating). Diarrhea may be an early symptom of incomplete intestinal obstruction, especially in patients with ileostomy or colostomy. In this instance treatment with this drug would be inappropriate and possibly harmful. Bentyl may produce drowsiness or blurred vision. In this event, the patient should be warned not to engage in activities requiring mental alertness such as operating a motor vehicle or other machinery or perform hazardous work while taking this drug. **PRECAUTIONS:** Although studies have failed to demonstrate adverse effects of dicyclomine hydrochloride in glaucoma or in patients with prostatic hypertrophy, it should be prescribed with caution in patients known to have or suspected of having glaucoma or prostatic hypertrophy. Use with caution in patients with autonomic neuropathy, hepatic or renal disease, ulcerative colitis—Large doses may suppress intestinal motility to the point of producing a paralytic ileus and the use of this drug may precipitate or aggravate the serious complication of toxic megacolon, hyperthyroidism, coronary heart disease, congestive heart failure, cardiac arrhythmias, and hypertension, hiatal hernia associated with reflux esophagitis since anticholinergic drugs may aggravate this condition.

It should be noted that the use of anticholinergic/antispasmodic drugs in the treatment of gastric ulcer may produce a delay in gastric emptying time and may complicate such therapy (antral stasis). Do not rely on the use of the drug in the presence of complication of biliary tract disease. Investigate any tachycardia before giving anticholinergic (atropine-like) drugs since they may increase the heart rate. With overdosage a curare-like action may occur. **ADVERSE REACTIONS:** Anticholinergics/antispasmodics produce certain effects which may be physiologic or toxic depending upon the individual patient's response. The physician must delineate these. Adverse reactions may include xerostomia, urinary hesitancy and retention, blurred vision and tachycardia, palpitations, mydriasis, cycloplegia, increased ocular tension, loss of taste, headache, nervousness, drowsiness, weakness, dizziness, insomnia, nausea, vomiting, impotence, suppression of lactation, constipation, bloated feeling, severe allergic reaction or drug idiosyncrasies including anaphylaxis, urticaria and other dermal manifestations, some degree of mental confusion and/or excitement, especially in elderly persons, and decreased sweating. With the injectable form there may be a temporary sensation of lightheadedness and occasionally local irritation. **DOSAGE AND ADMINISTRATION:** Dosage must be adjusted to individual patient's needs.

Usual Dosage: Bentyl 10 mg capsule and syrup: Adults: 1 or 2 capsules or teaspoonfuls syrup three or four times daily. Children: 1 capsule or teaspoonful syrup three or four times daily. Infants: 1/2 teaspoonful syrup three or four times daily. (May be diluted with equal volume of water.) Bentyl 20 mg: Adults: 1 tablet three or four times daily. Bentyl Injection: Adults: 2 ml (20 mg) every four to six hours intramuscularly only. NOT FOR INTRAVENOUS USE. **MANAGEMENT OF OVERDOSE:** The signs and symptoms of overdose are headache, nausea, vomiting, blurred vision, dilated pupils, hot, dry skin, dizziness, dryness of the mouth, difficulty in swallowing, CNS stimulation. Treatment should consist of gastric lavage, emetics, and activated charcoal. Barbiturates may be used either orally or intramuscularly for sedation but they should not be used if Bentyl with Phenobarbital has been ingested. If indicated, parenteral cholinergic agents such as Urecholine® (bethanechol chloride USP) should be used.

Product Information as of October, 1976

Merrell

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Cincinnati, Ohio 45215 U.S.A.

for Dermatology. Wheeler participated in a special session to consider the first postgraduate year medical education at the meeting of the Liaison Committee on Graduate Medical Education in Chicago. He also attended meetings of the American Board of Medical Specialties in Chicago, as president of the American Board of Dermatology.

* * *

Dr. L. R. McCarthy, director, clinical microbiology labs, attended the "Inter-Science Conference on Antimicrobial Agents and Chemotherapy" in Atlanta.

* * *

Dr. Frederick A. Dombrose, pathology and biochemistry, has received a \$158,630 three-year grant from the National Institutes of Health for his study, "Thrombogenic Phospholipid Surfaces." He will study the role of lipid surfaces in blood coagulation. Dr. Barry R. Lentz, biochemistry, is co-investigator.

* * *

Dr. Margaret L. Moore, physical therapy, presented "Building Winning Teams" at the Allied Health Colloquium in Chapel Hill.

* * *

Dr. Walter Blair Greene, orthopaedics, presented "Bilateral Congenital Dislocation of the Hip" to the American Academy of Pediatrics in Chicago.

* * *

Marc Mass, a Ph.D. candidate in the Department of Pathology, has been selected by the department for the second consecutive year to receive a \$4,000 scholarship from the Stauffer Chemical Company, Westport, Conn.

Mass is a native of New York City and graduated from the State University of New York at Stony Brook with a B.S. degree in biology and chemistry. He has been a graduate student in pathology here since 1975.

The Stauffer Chemical Company Scholarship Awards support training of Ph.D. candidates concerned with evaluating the safety of chemicals and are awarded to students in toxicology, pharmacology and pathology.

The pathology department here is recognized nationally for its research into cancer-producing substances and environmental pathology.

* * *

Dr. Barry R. Lentz, biochemistry, presented "Cholesterol in Membranes" to the Department of Biochemistry, University of Virginia and to the biophysics section at Cornell University.

* * *

Dr. Colin D. Hall, neurology and director of neuromuscular unit, presented "Symposium on

Neuromuscular Disorders," a two-day Continuing Education Symposium, to the University of Health Sciences, Chicago. Topics covered were "clinical approach to the patient with neuromuscular disease," "muscle biopsy and its value" and "electrodiagnosis of neuromuscular disorders."

* * *

Dr. Frank C. Wilson, orthopaedic surgery, presented "The Teaching of Musculoskeletal Basic Science to Medical Students" at an educator's workshop in Monterey, Calif.

Dr. Wilson is a visiting professor of orthopaedic surgery at the University of Pittsburgh. He presented "The Pathogenesis and Treatment of Ankle Fractures," gave seminars and conducted rounds with house officers and students at the Presbyterian and Children's Hospitals.

Dr. Wilson presented "Elective Surgery in Hemophilia: Results, Complications and Cost Effectiveness" at a combined meeting of the North and South Carolina Orthopaedic Associations in Pinehurst. The paper, co-authored by Dr. John Spencer and Dr. Tom Gillern, won the Resident's Award.

Dr. Wilson also attended the meeting of the American Association of Medical Colleges in New Orleans and

delivered the presidential address, "Litterae, Scientia, Et Humanitas" at the meeting of the Association of Orthopaedic Chairmen.

* * *

Dr. Jack Pledger of the UNC Cancer Research Center has been awarded a three-year, \$228,000 grant from the National Cancer Institute to investigate the action of a specific virus (SV40) on animal cells grown in tissue cultures.

Pledger's experimental model involves the use of fibroblast cells in tissue cultures. He is investigating how these cells are affected by the virus. Pledger will also try to identify a protein he has found in some competent cells or in cells altered by infection with this virus.


* * *

Dr. William G. Thomas, surgery/otolaryngology (audiology) and director, Hearing and Speech Center, presented "Effects of Noise on the Auditory System" to the Western Regional School of Safety in Asheville.

* * *

Dr. Frank C. Wilson, chief, division of orthopaedic surgery, presented "Replacement of the Knee Joint

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with the Walldium and Geometric Prostheses" at the meeting of the Southern Medical Association in Atlanta. He also discussed a paper on "Unstable Ankle Fractures — a Comparison of Closed Versus Open Treatment."

* * *

Dr. Steven J. Burnham, vascular and trauma surgery, presented the movie, "Thoraco-Retroperitoneal Exposure of the Entire Spine" at the American College of Chest Physicians' 44th annual scientific assembly in Washington, D.C.

* * *

Dr. J. Wilbert Edgerton, psychiatry and psychology, received the Mental Health Section Award at the meeting of the American Public Health Association in Los Angeles. The award is presented for "outstanding contributions to mental health-public health."

* * *

Dr. Harvey Hamrick, pediatrics, chaired the program committee for the Region 4 meeting of the Ambulatory Pediatric Association in Chapel Hill. The division of community pediatrics sponsored the meeting, attended by child health professionals from Maryland, Virginia, North Carolina and Washington, D.C.

* * *

A team of pathologists at the School of Medicine has received a \$200,000 grant to investigate precisely what role a certain cell plays in fighting malignant tumors.

The team is headed by Dr. Stephen Russell, a veterinarian who is a member of the University's Cancer

Research Center, an associate professor of pathology, and a veterinary pathologist in the Division of Laboratory Animal Medicine.

The researchers will use the three-year award from the National Cancer Institute to investigate whether macrophages kill malignant cells as part of the body's immune-response system.

* * *

Appointments:

New faculty are Robert C. Cefalo, professor, Department of Obstetrics and Gynecology; Donald T. Forman, professor, Department of Pathology; Robert D. Myers, professor of pharmacology; and William C. McGaghie, assistant professor, Department of Family Medicine.

Cefalo, a graduate of Boston College, earned his M.D. from Tufts University School of Medicine and his Ph.D. from Georgetown University. A Naval officer, Cefalo is professor of obstetrics and gynecology at the Uniformed Services University of Health Sciences. He also is associate professor of obstetrics and gynecology and associate professor in the Department of Physiology and Biophysics at Georgetown University. His appointment is effective Oct. 1, 1979.

Forman also will be director of the clinical chemistry laboratory of N.C. Memorial Hospital. Before coming to Chapel Hill, he was director of the division of biochemistry at Evanston (Ill.) Hospital Association and associate professor of biochemistry and pathology at Northwestern University Medical School. A graduate of Brooklyn College, he earned his M.S. and Ph.D. from Wayne State University. His appointment was effective Nov. 15.

If the patient complains of pain, past or present, the best way in which to discover its true seat is to ask him to place his hand on the affected part, as in this way errors in his description of his anatomy will not be committed, and false impressions will not be conveyed to the physician's mind. Even this direct method of showing the area of pain is not to be absolutely relied upon, for often pains are referred to parts in which there is no disease. Thus, the pain of coxalgia is apt to be felt in the knee and ankle, and in children the pain of pulmonary or cardiac disease is often described by the patient as felt in the abdomen. If the pain has been really abdominal, there will, in many cases, have been diarrhea or free passage of flatus. It is not to be forgotten, on the other hand, that a question which discovers the fact of several movements of the bowels does not prove the presence of true diarrhea, because a purgative may have been taken by the patient. — *Diagnosis in the Office and at the Bedside*, Hobart Amory Hare, 1914, p 22.

OFFICIAL CALL HOUSE OF DELEGATES

pursuant to the Bylaws, Chapter V, Section 1:

HOUSE OF DELEGATES Meetings scheduled

**Notice to: Delegates, Alternate Delegates, Officials
of the North Carolina Medical Society, and Presidents
and Secretaries of county medical societies.**

Sessions of the HOUSE OF DELEGATES will convene in
the Cardinal Ballroom, Pinehurst Hotel, Pinehurst, North
Carolina, at the following times:

Thursday, May 3, 1979—9:00 a.m.—Opening Session
Saturday, May 5, 1979—2:00 p.m.—Second Session

A member of the CREDENTIALS COMMITTEE will be present at the
Desk in the Hotel West Lobby, Thursday, May 3, 1979, from 8:30 a.m. to
12:30 p.m. to certify Delegates. Delegates are urged to bring their Cre-
dential Cards for presentation at the Registration Desk. Delegate Badges
must be worn to be seated in the HOUSE OF DELEGATES.

REFERENCE COMMITTEE HEARINGS

Reference Committee hearings are scheduled to begin Thursday, May 3, 1979, at 2:00 p.m.

D. E. WARD, JR., M.D., President
MARVIN N. LYMBERIS, M.D., Speaker
JACK HUGHES, M.D., Secretary
WILLIAM N. HILLIARD, Executive Director

In Memoriam



Dr. Katherine Anderson

KATHERINE HUNTER ANDERSON, M.D.

Dr. Katherine Hunter Anderson was born in Union Springs, Alabama, March 26, 1909.

After receiving her M.D. degree at Cornell University and completing a pediatric residency, she started the practice of pediatrics in Winston-Salem in 1941. She was on the staff at City and Forsyth Memorial Hospitals and the faculty of the Bowman Gray School of Medicine, where she became Professor Emerita. For 33 years she taught medical students, house officers, physician's assistants, her fellow physicians, parents and grandparents how to maintain and restore health.

Dr. Anderson was a fellow of the American Academy of Pediatrics, a member of the Ambulatory Pediatric Association and the North Carolina Pediatric Society. She was president of the Forsyth County Medical Society in 1968-1969 and during her administration introduced the concept "that a hard look be taken at our medical problems and that we work together not only with government but with all community agencies in an effort to improve and broaden medical care."

She was active in the Experimental Church and served on many community and civic boards and committees even after her retirement in 1976.

In all her activities, Dr. Anderson was an active advocate for children's rights to physical, mental, emotional and social health.

She left us a legacy of sanity, a sense of proportion and a willingness to rethink old beliefs and prejudice. For this we are grateful.

Thanks to her, this community is a better place for the young — and therefore for the old.

FORSYTH COUNTY MEDICAL SOCIETY

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WANTED — Good E.R. physician, American-Educated with recent specialty training. Location near Charlotte, N.C. Competitive salary and benefits. Send c.v. to Donald E. Hammer, M.D., 2206 Cumberland Avenue, Charlotte, N.C. 28203

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— Beautiful historic Edenton on Albemarle Sound near Outer Banks. Expanding multispecialty group in new ultra modern medical center seeks B/E-B/C Family Physician, Cardiologist I & NI, Dermatologist — Allergist, Gastroenterologist, Hematologist-Nephrologist, Neurologist, Pediatrician, Psychiatrist, Ophthalmologist, ENT, Orthopedics, OB-GYN. Competitive Salary — University affiliated. Contact: C. Lucas, M.D., P.O. Box 589, Edenton, N.C. 27932, Phone: (919) 482-8461.

MEDICAL OFFICE SPACE, North Hills Office Center, 2,200 square feet, now available. Telephone (919) 787-5870 weekdays.

COASTAL CAROLINA NEEDS ENERGETIC F.P. OR INTERNIST to work for expanding established multi-specialty group; 118 JCAH hospital, delightful small historic town on Albemarle Sound; Salary & %. Life, health, disability, malpractice insurance, etc. All available. Send resume to David Wright, M.D., Chowan Medical Center, Edenton, N.C. 27932. Telephone (919) 482-2116.

PSYCHIATRIST: Full time position in psychiatric outpatient setting to provide and supervise clinical services to adults and children. Mental Health Area covers two counties with a population of 72,000. Emphasis is on community-based outpatient treatment. This opportunity is in Rutherford and Polk counties located halfway between Charlotte and Asheville at the foothills of the beautiful mountains of Western North Carolina. The area features year round recreational opportunities. Salary commensurate with training and experience, (\$35,700-\$45,588.) Benefits include health insurance, membership in the North Carolina Local Governmental Employees' Retirement System, twelve (12) paid sick leave days a year, fifteen (15) paid vacation days a year, and fourteen (14) hours a year petty leave. For more information contact: Mr. Virgil A. Cook, Area Director, Rutherford-Polk Mental Health Programs, City Route 3, Fairground Road, Spindale, North Carolina 28160.

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Before prescribing, please consult complete product information, a summary of which follows:

The effectiveness of Valium (diazepam) in long-term use, that is, more than 4 months, has not been assessed by systematic clinical studies. The physician should periodically reassess the usefulness of the drug for the individual patient.

Contraindications: Tablets in children under 6 months of age, known hypersensitivity, acute narrow angle glaucoma, may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: As with most CNS-acting drugs, caution against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Withdrawal symptoms (similar to those with barbiturates, alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal muscle cramps, vomiting, sweating). Keep addiction-prone individuals (drug addicts or alcoholics) under careful surveillance because of predisposition to habituation/dependence.

Usage in Pregnancy: Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations, as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.

ORAL: Advise patients against simultaneous ingestion of alcohol and other CNS depressants.

Not of value in treatment of psychotic patients, should not be employed in lieu of appropriate treatment. When using oral form adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increase in dosage of standard anticonvulsant medication; abrupt withdrawal in such cases may be associated with temporary increase in frequency and/or severity of seizures.

INJECTABLE: To reduce the possibility of venous thrombosis, phlebitis, local irritation, swelling, and, rarely, vascular impairment when used I.V., inject slowly, taking at least one minute for each 5 mg (1 ml) given, do not use small veins, i.e., dorsum of hand or wrist, use extreme care to avoid intra-arterial administration or extravasation. Do not mix or dilute Valium with other solutions or drugs in syringe or infusion flask. If it is not feasible to administer Valium directly I.V., it may be injected slowly through the infusion tubing as close as possible to the vein insertion.

Administer with extreme care to elderly, very ill, those with limited pulmonary reserve because of possibility of apnea and/or cardiac arrest; concomitant use of barbiturates, alcohol or other CNS depressants increases depression with increased risk of apnea, have resuscitative facilities available. When used with narcotic analgesic eliminate or reduce narcotic dosage at least 1/3; administer in small increments. Should not be administered to patients in shock, coma, acute alcoholic intoxication with depression of vital signs.

Has precipitated tonic status epilepticus in patients treated for petit mal status or petit mal variant status.

Withdrawal symptoms (similar to those with barbiturates, alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal muscle cramps, vomiting, sweating). Keep addiction-prone individuals under careful surveillance because of predisposition to habituation/dependence. Not recommended for OB use.

Efficacy/safety not established in neonates (age 30 days or less), prolonged CNS depression observed. In children, give slowly (up to 0.25 mg/kg over 3 minutes) to avoid apnea or prolonged somnolence, can be repeated after 15 to 30 minutes. If no relief after third administration, appropriate adjunctive therapy is recommended.

Precautions: If combined with other psychotropics or anticonvulsants, carefully consider individual pharmacologic effects—particularly with known compounds which may potentiate action of Valium (diazepam), i.e., phenothiazines, narcotics, barbiturates, MAO inhibitors and antidepressants. Protective measures indicated in highly anxious patients with accompanying depression who may have suicidal tendencies. Observe usual precautions in impaired hepatic function, avoid accumulation in patients with compromised kidney function. Limit oral dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation (initially 2 to 2½ mg once or twice daily, increasing gradually as needed or tolerated).

INJECTABLE: Although promptly controlled, seizures may return; readminister if necessary, not recommended for long-term maintenance therapy. Laryngospasm increased cough reflex are possible during peroral endoscopic procedures, use topical anesthetic. Have necessary countermeasures available. Hypotension or muscular weakness possible, particularly when used with narcotics, barbiturates or alcohol. Use lower doses (2 to 5 mg) for elderly debilitated.

Adverse Reactions: Side effects most commonly reported were drowsiness, fatigue, ataxia. Infrequently encountered were confusion, constipation, depression, diplopia, dysarthria, headache, hypotension, incontinence, jaundice, changes in libido, nausea, changes in salivation, skin rash, slurred speech, tremor, urinary retention, vertigo, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances and stimulation have been reported; should these occur, discontinue drug.

Because of isolated reports of neutropenia and jaundice, periodic blood counts, liver function tests advisable during long-term therapy. Minor changes in EEG patterns, usually low-voltage fast activity have been observed in patients during and after Valium (diazepam) therapy and are of no known significance.

INJECTABLE: Venous thrombosis/phlebitis at injection site, hypoactivity, syncope, bradycardia, cardiovascular collapse, nystagmus, urticaria, hiccups, neutropenia.

In peroral endoscopic procedures, coughing, depressed respiration, dyspnea, hyperventilation, laryngospasm pain in throat or chest have been reported.

Management of Overdosage: Manifestations include somnolence, confusion, coma, diminished reflexes. Monitor respiration, pulse, blood pressure, employ general supportive measures, I.V. fluids, adequate airway. Use levetterenol or metaraminol for hypotension, caffeine and sodium benzoate for CNS-depressive effects. Dialysis is of limited value.

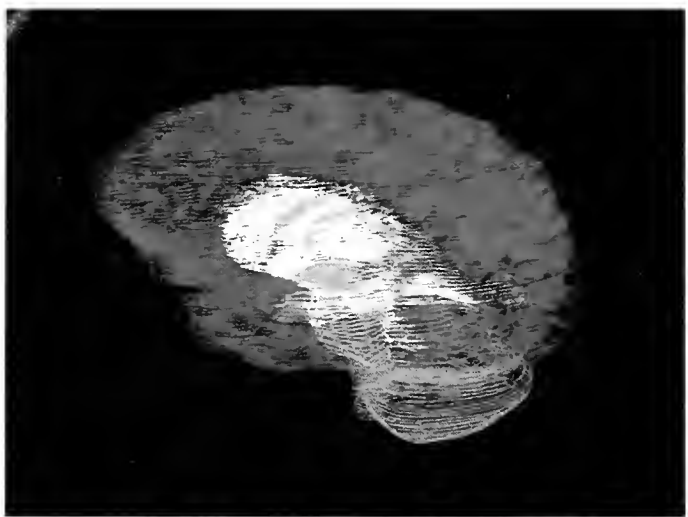
Supplied: Tablets, 2 mg, 5 mg and 10 mg, bottles of 100 and 500, Tel-E-Dose* (unit dose) packages of 100, available in trays of 4 reverse-numbered boxes of 25, and in boxes containing 10 strips of 10. Prescription Paks of 50, available singly and in trays of 10. Ampuls, 2 ml, boxes of 10, Vials, 10 ml, boxes of 1, Tel-E-Ject* (disposable syringes), 2 ml, boxes of 10. Each ml contains 5 mg diazepam, compounded with 40% propylene glycol, 10% ethyl alcohol, 5% sodium benzoate and benzoic acid as buffers, and 1.5% benzyl alcohol as preservative.



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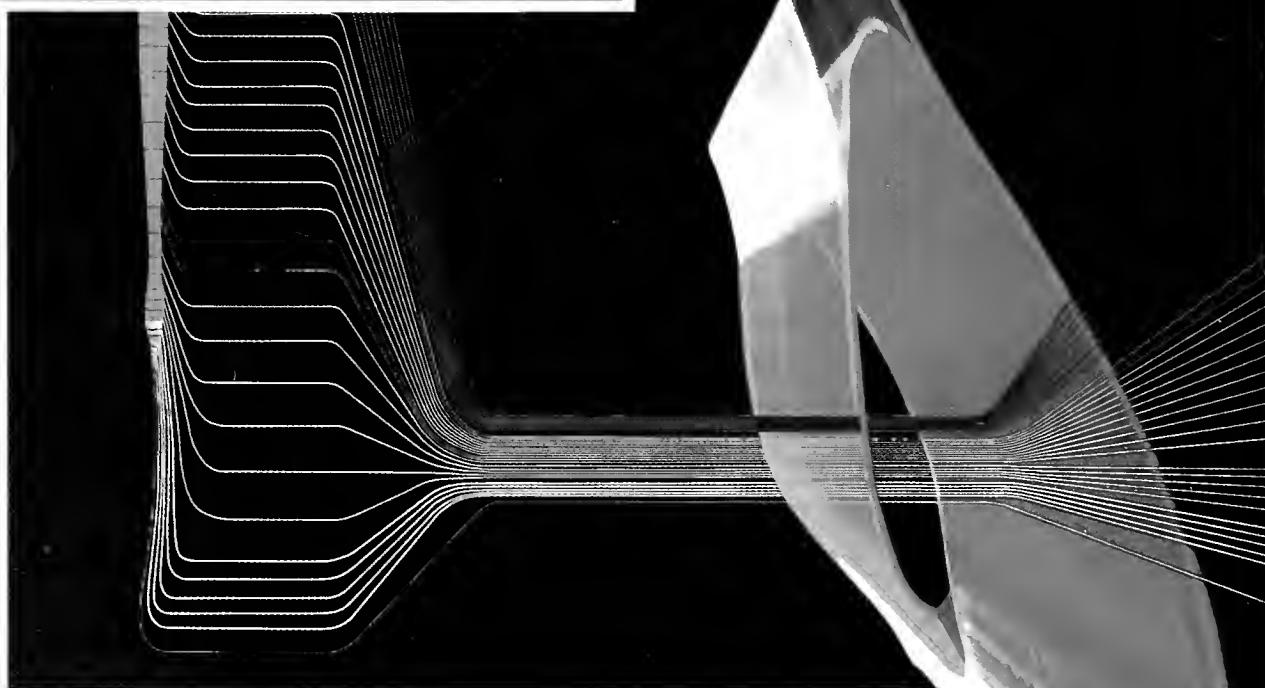


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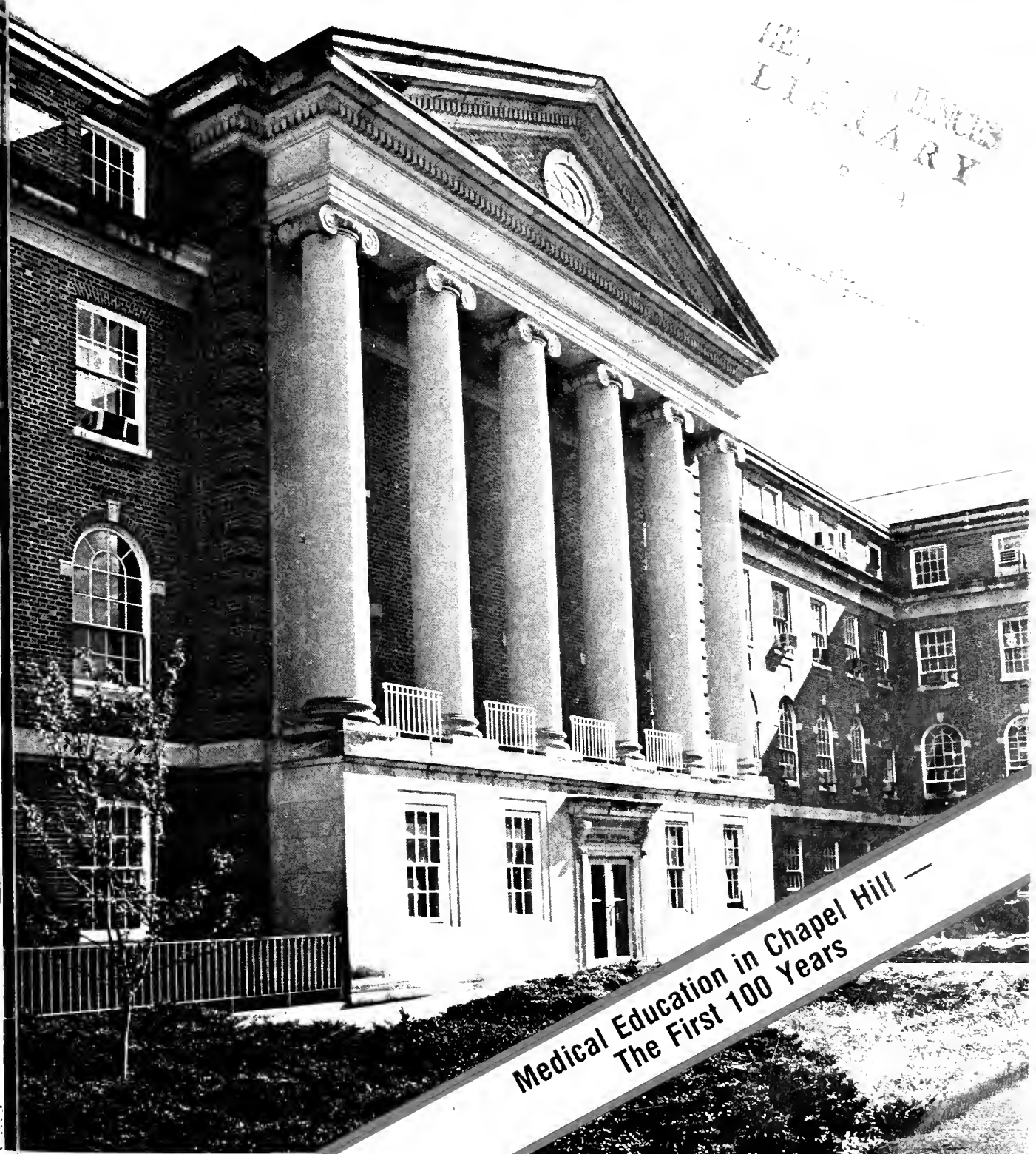
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NORTH CAROLINA

Medical Journal

The Official Journal of the North Carolina Medical Society □ □ □ March 1979, Vol. 40, No. 3



Medical Education in Chapel Hill —
The First 100 Years



THE MESSAGES OF TENSION

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against hazardous occupations requiring complete
mental alertness. When used adjunctively in convul-
sive disorders, possibility of increase in frequency,
and/or severity of grand mal seizures may require
increased dosage of standard anticonvulsant medica-
tion. Abrupt withdrawal may be associated with tem-
porary increase in frequency and/or severity of sei-
zures. Advise against simultaneous ingestion of alco-
hol and other CNS depressants. Withdrawal symp-
toms (similar to those with barbiturates and alcohol)
have occurred following abrupt discontinuance (con-
vulsions, tremor, abdominal and muscle cramps, vom-
iting and sweating). Keep addiction-prone individuals
under careful surveillance because of their predisposi-
tion to addiction.

Usage in Pregnancy: Use of minor tran-
quilizers during first trimester should al-
most always be avoided because of in-
creased risk of congenital malformations
as suggested in several studies. Consider
possibility of pregnancy when instituting
therapy; advise patients to discuss therapy
if they intend to or do become pregnant.
Precautions: If combined with other psychotropics or
anticonvulsants. Consider carefully pharmacology of
agents employed. Drugs such as phenothiazines,
narcotics, barbiturates, MAO inhibitors and other an-
tidepressants may potentiate its action. Usual pre-
cautions indicated in patients severely depressed or
with latent depression or with suicidal tendencies.
Observe usual precautions in impaired renal or hepatic
function. Limit dosage to smallest effective amount
in elderly and debilitated to preclude ataxia or over-
sedation.

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anxiety, apprehension, fatigue, depressive symptoms
or agitation. Symptomatic relief of acute agitation,
tremor, delirium, tremors and hallucinations due to
acute alcohol withdrawal. Adjunctively in skeletal
muscle spasm due to reflex spasm to local pathol-
ogy, spasticity caused by upper motor neuron
disorders, athetosis, stiff-man syndrome. Convulsive
disorders (not for sole therapy).
The effectiveness of Valium in long-term use that is
more than 4 months has not been assessed by sys-
tematic clinical studies. The physician should period-
ically reassess the usefulness of the drug for the indi-

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**hypo-tension, changes in libido, nausea, fatigue, de-
pression, dizziness, headache, skin rash, ataxia, con-
stipation, headache, incontinence, changes in saliva-
tion, slurred speech, tremor, vertigo, urinary retention,
blurred vision. Paradoxical reactions such as acute
hyper-reflexic states, anorexia, hallucinations, increased
muscle spasticity, insomnia, rage, sleep disturbance, or
stimulation have been reported. The following are of
discontinue drug. Isolated reports of neutropenia,
leukopenia, periodic blood counts, and skin patch
tests advisable during long-term therapy.**

"THE PHYSICIAN IS A DECISION MAKER, AND ALMOST EVERY DECISION HE MAKES COSTS OR SAVES MONEY."

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More and more physicians today are beginning to realize the extent of the economic influence they have, and are finding ways of holding costs down.

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More physicians today realize what a tough problem we're all faced with. They know this is a challenge for medicine. And that physicians are in the best position to deal with and solve the problem.

*PATIENT CARE Magazine—Outlook 1977, "Face-Off: Cost Containment vs. Chaos," January 1, 1977

Lyle CB, et al. "Practice habits in a group of eight internists," ANNALS OF INTERNAL MEDICINE 84 (May 1976): 594-601

Schroeder SA, et al. "Use of laboratory tests and pharmaceuticals: variation among physicians and effect of cost audit on subsequent use," JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION 225 (Aug. 20, 1973): 969-73



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Published Monthly as the Official Organ of
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March 1979, Vol. 40, No. 3

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Society. — Constitution and Bylaws of the North Carolina
Medical Society, Chapter IV, Section 4, page 4.

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14 Carltons, Box or Menthol, have less tar than one Vantage.

11 Carltons, Box or Menthol, have less tar than one Merit.

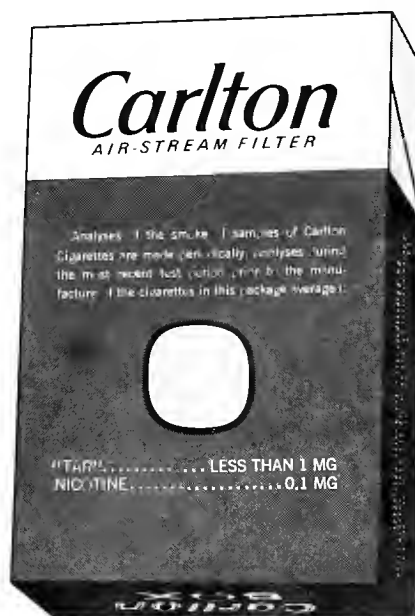
11 Carltons, Box or Menthol, have less tar than one Kent Golden Lights.

6 Carltons, Box or Menthol, have less tar than one True.

The tar and nicotine content per cigarette of selected brands was:

	tar mg.	nicotine mg.
Vantage	11	0.8
Merit	8	0.6
Kent Golden Lights	8	0.7
True	5	0.4
Carlton Soft Pack	1	0.1
Carlton Menthol	less than 1	0.1
Carlton Box	less than 0.5	0.05

This same report confirms of all brands, Carlton Box to be lowest with less than 0.5 mg. tar and 0.05 mg. nicotine.



LOWEST... Less than
1 mg. "tar," 0.1 mg. nicotine.

Warning: The Surgeon General Has Determined
That Cigarette Smoking Is Dangerous to Your Health.

Box, Less than 0.5 mg. "tar", 0.05 mg. nicotine, Soft Pack and Menthol
1 mg. "tar", 0.1 mg. nicotine av. per cigarette. FTC Report May '78.

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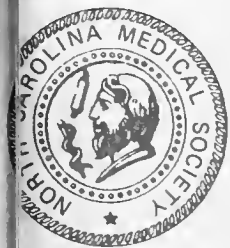
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PRESIDENT'S NEWSLETTER

NORTH CAROLINA MEDICAL SOCIETY

No. 10

March 1979

It was my pleasure at the AMA Annual Leadership Conference in Chicago, Illinois, February 15-18, 1979, to accept an award presented to the N. C. Medical Society for increased AMA membership for six continuous years. In addition, I received, for North Carolina, special recognition for the highest consistent percentage in AMA membership during the last decade---an increase of over 30% in those ten years. The AMA is now more active than ever in national health legislation and issues that deserves the support of all physicians interested in maintaining a strong national organization to support our interests in Congress.

The North Carolina General Assembly has completed six weeks of business and here are a few bills of interest to physicians:

SB 146 and HB 203 - Joint identical resolutions urging the merger of the Medicare/Medicaid systems. This joint resolution calls on Congress to merge the Medicare and Medicaid payment system.

HB 212 - Child abuse made a Felony: This bill will provide a new statute providing that willfully or intentionally inflicted serious injury that disfigures or impairs bodily function of a child under age 16 by the parent, or by the person supervising or providing care to that child, shall be made a felony. The crime shall be punishable by imprisonment up to ten years.

HB 246 and SB 214 - No abortion funds. This would prohibit the appropriation or expenditure of public funds for the purpose of providing or defraying the cost of abortion.

SB 239 - Rubella for Marriage License: This bill would amend the present law to exempt certain female applicants for a marriage license from the requirement of obtaining a rubella immunity test. This bill would exempt women from obtaining rubella immunity tests if 1) the woman is 45 years of age or older or 2) with a doctor's affidavit stating that she is incapable of childbearing.

HB 341 - Medical Board Fees Increased: Introduced by John Gamble, M.D., at the request of the Board of Medical Examiners. It amends the present law to increase the fee for medical license examination to \$200.00 and increased the fee for biennial reregistration up to \$25.00. The bill will be effective September 1, 1979. The Executive Council is on record in favor of the bill.

The Executive Council of the Society met in Raleigh, February 4, 1979, and here are a few items of interest which were discussed.

The Council endorsed the N. C. Alliance of Diploma Schools of Nursing with the objective of a unified effort to promote quality diploma nursing education. The Council passed a resolution to continue the North Carolina Central Tumor Registry in the Department of Human Resources.

The Council passed a motion to approve the Medical Insurance Agency of the Medical Liability Mutual Insurance Company of N.C., Inc.

The problem of Medicare payment regarding laboratory service and physician's assistant services to physicians employing P.A.'s in their practice was discussed.

The Council heard a report of the Committee on Medical Education and to date 148 doctors have not completed their CME requirements of December 31, 1978. I feel that many of these physicians have met these requirements, but have not taken the time to report them. If you are one of these physicians, I strongly urge you to send in your CME form as soon as possible.

The Council discussed the current status of programs to train Physician's Assistants. The House of Delegates at the 1977 session voted not to support any Physician's Assistant Program unless associated with a medical school in the state.

The Council passed a resolution requesting Blue Cross to pay pathologist's fees to the pathologists on the same basis as they pay other physicians when those certificate benefits are assigned by the subscriber. The Council passed a resolution from the Insurance Industry Committee recommending that all physicians sign or stamp every insurance form.

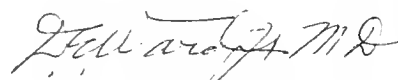
The Council discussed at length the HSA's funding of clinics through county health departments.

I have written a letter to each County Medical Society President requesting appointment of a Vanguard Committee for their society. This committee would provide local members more information, more organization, and more involvement in health planning decisions now being made in your county and your area. It would be the beginning of a comprehensive, long-range program that physicians could use to address present health issues of local, state, and national interest. This committee would be working with planners to make the plans as reasonable, valid, and realistic as possible for the physicians of your county. One of the most important activities of this Vanguard Committee would be to appoint one or more members to your local health system agencies to assist HSA's Projects and Plans Committee relating to health care in your community and HSA area. Each county society definitely needs physicians involved early in the HSA's health planning for your area. Health planning should be a local process. If we fail to make our views heard, the HSA's will interpret silence as a tacit approval of the plans they have prepared without our full participation.

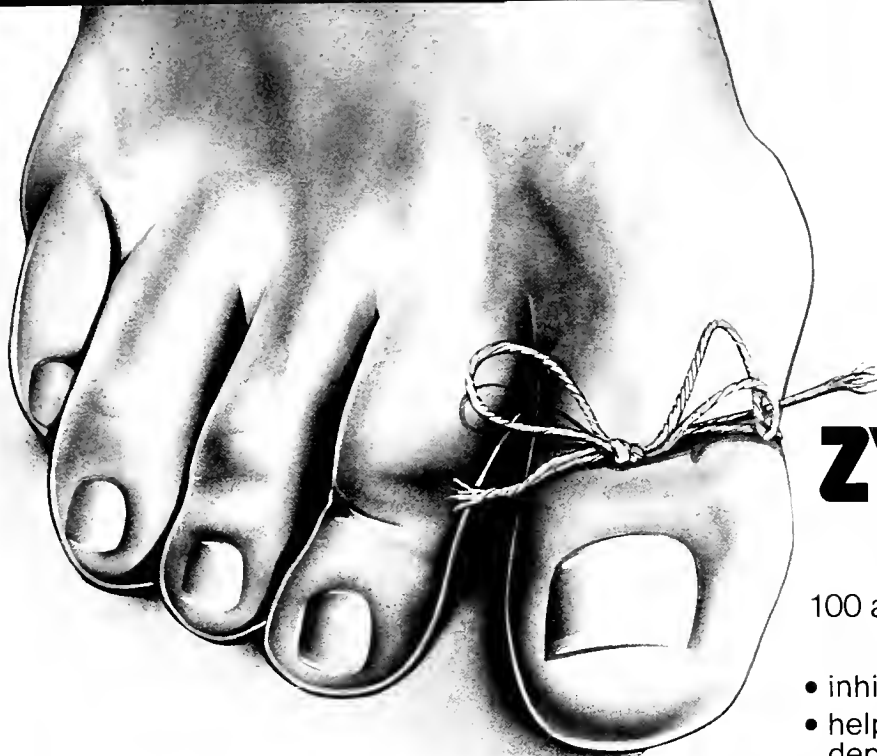
To coordinate the efforts of the local society's Vanguard Committees, I have appointed an ad hoc Committee to study the possibility of the employment of a Health Planning Society staff member. The Chairman will be Charles A. Hoffman, Jr. M.D., Fayetteville, and serving with him is T. Tilghman Herring, M.D., Wilson, and Henry H. Nicholson, Jr., M.D., Charlotte. With a Vanguard Committee in each county society, I feel that our Society can have more input into local and regional health planning.

I hope each Society member will make plans to attend the Annual North Carolina Medical Society Meeting in Pinehurst, May 3-6, 1979.

Sincerely,



D. E. Ward, Jr., M.D.
President



A reminder

ZYLOPRIM[®]

(allopurinol)

100 and 300 mg scored Tablets

- inhibits uric acid formation
- helps prevent urate crystal depositions in synovia
- reduces risk of uric acid lithiasis

INDICATIONS AND USE: This is not an innocuous drug and strict attention should be given to the indications for its use. Pending further investigation, its use in other hyperuricemic states is not indicated at this time.

Zyloprim[®] (allopurinol) is intended for

1. treatment of gout, either primary, or secondary to the hyperuricemia associated with blood dyscrasias and their therapy;
2. treatment of primary or secondary uric acid nephropathy, with or without accompanying symptoms of gout;
3. treatment of patients with recurrent uric acid stone formation;
4. prophylactic treatment to prevent tissue urate deposition, renal calculi, or uric acid nephropathy in patients with leukemias, lymphomas and malignancies who are receiving cancer chemotherapy with its resultant elevating effect on serum uric acid levels.

CONTRAINDICATIONS: Use in children with the exception of those with hyperuricemia secondary to malignancy. The drug should not be employed in nursing mothers.

Patients who have developed a severe reaction to Zyloprim should not be restarted on the drug.

WARNINGS: ZYLOPRIM SHOULD BE DISCONTINUED AT THE FIRST APPEARANCE OF SKIN RASH OR ANY SIGN OF ADVERSE REACTION. In some instances a skin rash may be followed by more severe hypersensitivity reactions such as exfoliative, urticarial and purpuric lesions as well as Stevens-Johnson syndrome (erythema multiforme) and very rarely a generalized vasculitis which may lead to irreversible hepatotoxicity and death.

A few cases of reversible clinical hepatotoxicity have been noted and in some patients asymptomatic rises in serum alkaline phosphatase or serum transaminase have been observed. Accordingly, periodic liver function tests should be performed during the early stages of therapy, particularly in patients with pre-existing liver disease. Patients should be alerted to the need for due precautions when engaging in activities where alertness is mandatory.

Nevertheless, iron salts should not be given simultaneously with Zyloprim. This drug should not be administered to immediate relatives of patients with idiopathic hemochromatosis.

In patients receiving Purlinethol[®] (mercaptopurine) or Imuran[®] (azathioprine), the concomitant administration of 300-600 mg of Zyloprim per day will require a reduction in dose to approximately one-third to one-fourth of the usual dose of mercaptopurine or azathioprine. Subsequent adjustment of doses of Purlinethol or Imuran should be made on the basis of therapeutic response and any toxic effects.

Usage in Pregnancy and Women of Childbearing Age: Zyloprim[®] (allopurinol) should be used in pregnant women or women of childbearing age only if the potential benefits to the patient are weighed against the possible risk to the fetus.

PRECAUTIONS: Some investigators have reported an increase in acute attacks of gout during the early stages of allopurinol administration, even when normal or sub-normal serum uric acid levels have been attained.

It has been reported that allopurinol prolongs the half-life of the anticoagulant, dicumarol. This interaction should be kept in mind when allopurinol is given to patients already on anticoagulant therapy, and the coagulation time should be reassessed.

A fluid intake sufficient to yield a daily urinary output of at least 2 liters and the maintenance of a neutral or, preferably, slightly alkaline urine are desirable to (1) avoid the theoretic possibility of formation of xanthine calculi under the influence of Zyloprim therapy and (2) help prevent renal precipitation of urates in patients receiving concomitant uricosuric agents.

Patients with impaired renal function require less drug and should be carefully observed during the early stages of Zyloprim administration and the drug withdrawn if increased abnormalities in renal function appear.

In patients with severely impaired renal function, or decreased urate clearance, the half-life of oxipurinol in the plasma is greatly prolonged. Therefore, a dose of 100 mg per day or 300 mg twice a week, or perhaps less, may be sufficient to maintain adequate xanthine oxidase inhibition to reduce serum urate levels. Such patients should be treated with the lowest effective dose, in order to minimize side effects.

Mild reticulocytosis has appeared in some patients.

As with all new agents, periodic determination of liver and kidney function and complete blood counts should be performed especially during the first few months of therapy.

ADVERSE REACTIONS:

Dermatologic: Because in some instances skin rash has been followed by severe hypersensitivity reactions, it is recommended that therapy be discontinued at the first sign of rash or other adverse reaction (see WARNINGS). Skin rash, usually maculopapular, is the adverse reaction most commonly reported.

Exfoliative, urticarial and purpuric lesions, Stevens-Johnson syndrome (erythema multiforme) and toxic epidermal necrolysis have also been reported.

A few cases of alopecia with and without accompanying dermatitis have been reported.

In some patients with a rash, restarting Zyloprim (allopurinol) therapy at lower doses has been accomplished without untoward incident.

Gastrointestinal: Nausea, vomiting, diarrhea, and intermittent abdominal pain have been reported.

Vascular: There have been rare instances of a generalized hypersensitivity vasculitis or necrotizing angitis which have led to irreversible hepatotoxicity and death.

Hematopoietic: Agranulocytosis, anemia, aplastic anemia, bone marrow depression, leukopenia, pancytopenia and thrombocytopenia have been reported in patients, most of whom received concomitant drugs with potential for causing these reactions. Zyloprim[®] (allopurinol) has been neither implicated nor excluded as a cause of these reactions.

Neurologic: There have been a few reports of peripheral neuritis occurring while patients were taking Zyloprim. Drowsiness has also been reported in a few patients.

Ophthalmic: There have been a few reports of cataracts found in patients receiving Zyloprim. It is not known if the cataracts predated the Zyloprim therapy. "Toxic" cataracts were reported in one patient who also received an anti-inflammatory agent, again, the time of onset is unknown. In a group of patients followed by Gutman and Yü for up to five years on Zyloprim therapy, no evidence of ophthalmologic effect attributable to Zyloprim was reported.

Drug Idiosyncrasy: Symptoms suggestive of drug idiosyncrasy have been reported in a few patients. This was characterized by fever, chills, leukopenia or leukocytosis, eosinophilia, arthralgias, skin rash, pruritus, nausea and vomiting.

OVERDOSAGE: Massive overdosing, or acute poisoning, by Zyloprim has not been reported.

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Indications: For the symptomatic relief of bronchospastic conditions such as bronchial asthma, chronic bronchitis and pulmonary emphysema.

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Precautions: Use with caution in patients with cardiac disease, hepatic or renal impairment. Concurrent administration with certain antibiotics, i.e., clindamycin, erythromycin, tetracycline, may result in higher serum levels of theophylline. Plasma prothrombin and factor V may increase, but any clinical effect is likely to be small. Metabolites of guaifenesin may contribute to increased urinary 5-hydroxyindoleacetic acid readings, when determined with nitrosonaphthal reagent. Safe use in pregnancy has not been established. Use in case of pregnancy only when clearly needed.

Adverse Reactions: Theophylline may exert some stimulating effect on the central nervous system. Its administration may cause local irritation of the gastric mucosa, with possible gastric discomfort, nausea, and vomiting. The frequency of adverse reactions is related to the serum theophylline level and is not usually a problem at serum theophylline levels below 20 mcg/ml.

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SPECIAL ARTICLE

Medical Education at Chapel Hill, the First 100 Years

First of two parts

As best as can be determined, the School of Medicine at the University of North Carolina was established February 12, 1879; although there is evidence to suggest that there may have been medical instruction in Chapel Hill before the Civil War. A memorandum in the minutes of the board of trustees of the university at its meeting on January 28, 1879, states that "the Board being informed that Dr. T.W. Harris has established a medical school at the University, the executive committee is instructed to confer with Dr. Harris to decide whether and upon what terms he will be made a member of the faculty without salary."

The design of the school was simplest — to prepare students for attendance on the lectures of the leading medical colleges. For the first year's course, instruction was given in anatomy, chemistry, botany and physiology. In the second year, instruction was given by Dr. Harris in anatomy, materia medica, and therapeutics, and the practice of medicine. Anatomy was taught by dissection of a human subject and by models. Then fol-

lowed a short course in surgery in which Dr. Harris was well skilled. Free clinics were given once or twice a week at which students would see and treat diseases under the direction of the professor.

Since its beginning, the medical school has had eight deans of the school at Chapel Hill and one, Dr. Hubert Royster, for the medical department at Raleigh. Two, Dr. Isaac H. Manning and Dr. Walter Reece Berryhill, had a combined tenure

spanning more than half of the 100 years, Dr. Manning having served 28 years and Dr. Berryhill having served for 24.

The school's history can be divided into three eras: The early years, the two-year school, and the four-year school with the development of North Carolina Memorial Hospital and a true academic medical center in Chapel Hill.

The Early Years

Dr. Thomas W. Harris, Dean, 1879-1885

Dr. Thomas W. Harris became first dean of the medical school February 12, 1879. Dr. Harris was well prepared. He had obtained his medical diploma at the University of New York and had then spent two years in hospital work in the famous Ecole de Medicine of Paris, devoting himself especially to anatomy. He was a medical attendant for nine months under the distinguished Velpeau.

Dr. Harris was an able man and a good teacher, but the necessity of engaging in general practice caused his resignation and move to Durham in 1885. With the resignation of Dr. Harris, the School of Medicine closed, and the university's first attempt in medical education



Dr. Thomas W. Harris

Compiled from the book *Medical Education at Chapel Hill, the First 100 Years*, by W. Reece Berryhill, M.D., with B. Blythe, M.D., and Isaac Hall Manning, M.D., published by the Medical Alumni Association, Chapel Hill, 1979.

ended, leaving the state without a medical school until 1890.

Dr. Richard Whitehead, Dean, 1890-1905

At the meeting of the University Board of Trustees on February 27, 1889, President Kemp Battle, on behalf of the faculty, presented two very important recommendations which had and which continued to have, far-reaching effects for the university and the state.

The first was that a "special school of medicine and pharmacy" be established under the direction of Dr. Paul Brandon Barringer of Davidson; the second was that as a



Dr. Richard Whitehead

part of his responsibilities Dr. Barringer would be the physician to students, thus establishing the University Student Health Service. A modest annual fee of \$5 per enrolled student would be paid to Dr. Barringer in lieu of a university salary.

Shortly after he had tentatively accepted the deanship, however, Dr. Barringer was offered a professorship of physiology and surgery at the University of Virginia, his alma mater, which he accepted in 1889.

Apparently, he was well acquainted with the qualifications and great promise of Dr. Richard Henry Whitehead, then a demonstrator of anatomy in Dr. William Beverly

Towle's department at the University of Virginia. Dr. Whitehead was suggested to President Battle as a candidate for dean. After considerable correspondence between the two during the summer of 1889, Dr. Whitehead agreed to accept a proposal to become "medical instructor of the university" commencing September, 1890.

The problems of developing the medical school were enormous even for that era when instruction in medicine, except for anatomy, was largely didactic. Space had to be found for teaching and Dr. Whitehead was first assigned an office and a lecture room in the Old West Building. The small wooden dissecting hall built for Dr. Harris' anatomy classes also was renovated.

In the session of 1896-1897, the medical course was lengthened to two years. Dr. Charles Staples Mangum was added to the faculty as professor of physiology and materia medica.

With the extension of the curriculum to two years, the enrollment increased. In 1898, the school was admitted to membership in the Association of American Medical Colleges, and for the first time the university catalog carried announcement of requirements for admission to the freshman medical class. These consisted of examinations to determine proficiency in English composition, arithmetic, algebra and Latin.

In 1900, Dr. Edwin Alderman was succeeded as president of the university by Dr. Francis P. Venable, the distinguished professor of chemistry. At the meeting of the trustees in January, 1901, Dr. Venable recommended the "incorporation of the departments of medicine and pharmacy into the university." This recommendation was approved. Thus, for the first time since the beginning of the university's venture in medical education, faculty members of these professional schools were paid salaries by the university and an operating budget was provided for these departments and for the student health service.

In 1901, Dr. Isaac Hall Manning

was appointed professor of physiology and bacteriology. Now, there were three fulltime faculty members in the two-year school — Dr. Whitehead and two of his students from the earlier one-year medical course, Drs. Mangum and Manning.

THE MEDICAL DEPARTMENT AT RALEIGH

Dr. Hubert Royster, Dean, 1902-1910

In 1899, President Alderman became interested in establishing the clinical years of the medical school at Raleigh, and he had several conferences with Dr. Hubert A. Royster regarding possibilities and plans for such development. He urged Dr. Royster to accept the deanship and to organize the school if the project materialized. Since President Alderman and Dr. Whitehead were close friends, it must be assumed they had discussed this and that Dr. Whitehead approved.

In January, 1902, the trustees approved the project and the appointment of Dr. Royster as dean of the University of North Carolina medical department at Raleigh. He was given the responsibility of selecting faculty, planning curriculum, and arranging for acquisition of a building and opening the school in Raleigh.



Dr. Hubert Royster

at September, a truly monumental task for a man of 30.

In addition, the trustees informed Dr. Royster that the university could not assume responsibility for the operation of the clinical years and that until such time that this was possible, the dean and the faculty must assume entire educational and financial responsibility — there were to be no salaries paid by the university for the time being. As it developed, there never were any university funds available to support the medical department in Raleigh.

Throughout the school's existence, the physical plant and equipment were inadequate, but this was the case with all medical schools in that era and was true for some time thereafter. Clinical instruction was provided at Rex and St. Agnes hospitals, at the Dorothea Dix Hospital, and at the Raleigh Dispensary. Dr. Royster was able in 1909 to attract and develop a substantial clinical faculty.

Despite the high quality, courage and devotion of the faculty and of Dan Royster, the inadequate physical plant and equipment and, most importantly, the lack of any university financial or educational responsibility, resulted in an unfavorable appraisal of the school by Dr. Abraham Flexner of the Carnegie Foundation for the Advancement of Learning and Dr. N. P. Colwell, secretary of the Council on Medical Education of the American Medical Association in their survey in 1909. Accordingly, President Manning and the trustees were forced in 1910 to close the Raleigh branch because there were no funds with which to meet the necessary requirements for approval. This decision was made with great reluctance.

There were 76 graduates of the Raleigh branch. They served medicine well and practiced in many sections of the state. Many became leaders in their profession.

Dr. Isaac Hall Manning, Dean, 1909-1933

In 1905, Dr. Whitehead resigned to accept the position of dean and professor of anatomy at the Univer-

sity of Virginia, and Dr. Manning reorganized the medical school. Dr. William de Berniere MacNider, who had been graduated in the first class from the medical department in Raleigh in 1903 and who had also been an instructor in medicine, was appointed professor of pharmacology and bacteriology.

During this period, through the efforts of Dr. Manning, the medical laboratories became more adequately equipped and, most importantly, a new building was provided. Beginning with the 1905-1906 school year, Person Hall was remodeled to provide laboratory and classroom space and was assigned entirely to medicine. In 1912, a new building, Colwell Hall, was completed.

Because of the rising standards demanded of all medical schools following the Flexner survey in 1909-1910, both in admission requirements and performance of students, the faculty set a maximum limit of 40 for the entering class. This ceiling was raised within a few years as the number of well-qualified applicants increased. As Dr. Manning states in his account of this period, "It is vital to the existence of this school to transfer only such students as can and will hold their own in the schools to which they are transferred. The success of the transfer students is a measure of the success of the two-year school, and this in turn will depend very largely upon the selection of students to be admitted." Accordingly, in 1916, Dr. Manning recommended that three years of college work be required for admission and that this, with two years of the medical course, would be necessary for the Bachelor of Science in Medicine degree.

At the end of World War I, the future of the two-year medical school and the university's opportunity and responsibility for meeting the medical care needs of the state had become of increasing concern to Dr. Manning, to the medical faculty, and to Harry Woodburn Chase who had become president of the university in 1919. At meetings of the executive committee of the board of trustees in December,

1921, and in January and March of 1922, the question of expanding the medical school to four years was presented by President Chase and discussed seriously by the committee. At Governor Cameron Morrison's request, a subcommittee composed of President Chase, Dr. R. H. Lewis and Dr. Manning was appointed to study the matter in detail and to report in June, 1922, on the advisability of establishing a four-year medical school.

After considerable study, the members were unanimous in deciding that the expansion should take place. They differed, as was to be anticipated, with respect to the most desirable location. In December, 1922, the committee met in Chapel Hill to prepare its final report for the trustees. The two members from Charlotte voted to locate the last two years in that city while the other members present voted for the expanded school and university hospital to be placed in Chapel Hill.

The committee requested Dr. Chase to prepare the final report and the recommendations to be presented to the board of trustees at its January, 1923, meeting. While President Chase was thus engaged, he was visited by Dr. William P. Few, president of Trinity College, who, according to Dr. Manning, "stated that he had long been interested in building a medical school in connection with Trinity College and had a proposal to make to the university. Briefly, this proposition was 'if the state would find \$2 million, Trinity would find an equal amount and a medical school under the joint control of the two institutions would be established. The joint school would consist of the first two years to be given at the University in Chapel Hill and the last two years in Durham.'" President Chase appeared highly pleased with this offer as it would solve the problem and get him out of his dilemma.

During the next two months there were frequent meetings of the executive committee and the full board of trustees in an attempt to reach a decision regarding Dr. Few's proposal. Another special ad hoc com-

mittee of the trustees was appointed to study the new proposal and to confer with the other leaders in the State and with other denominational colleges, particularly Wake Forest College and Davidson College.

At the trustees' meeting January 25, 1923, Dr. Chase, after discussing the difficulties encountered by the ad hoc committee and its consideration of the Few proposal, recommended that further consideration of the proposed establishment of a four-year medical school be deferred for two years.

However, two members of the board of trustees, Josephus Daniels and Walter Murphy, not only opposed postponement but moved the establishment of a four-year school of medicine at the University of North Carolina under the control of the university trustees. This was favored by Governor Morrison, who suggested that the board meet in ten days to decide upon the location for a school and university hospital.

Delegates from various cities in the state were heard on the advantages of their cities for the location of the medical school.

After considerable deliberation, the board unanimously decided to "recommend to the General Assembly that it make adequate financial provision for the establishment and maintenance of a four-year medical school of Class A quality and for the building and maintenance of a hospital in connection therewith under the control of the University of North Carolina." The location was not specified, presumably leaving this decision to the General Assembly.

The governor named a committee of the trustees to draft a bill requesting \$500,000 for construction costs and \$100,000 for the operational budget of the medical school. At the request of Walter Murphy, this was later modified to \$350,000 for construction and \$150,000 for the operation budget. The request was presented to the joint appropriations committee of the General Assembly. However, the *Raleigh News and Observer* of February 27, 1923, ran the following note: "New appropriation bills ask for \$10 mil-

lion in bonds; request of the University of North Carolina for \$350,000 as a start on the establishment of a four-year medical college was disallowed." It is not known how actively President Chase pushed for this bill in view of the many earlier determined building needs of the university. At any rate, this attempt to establish a four-year medical school came to an end, and Dr. Manning added discouragingly in his historical account, "perhaps forever."

It is difficult to determine precisely what influence Dr. Few's proposal had on the outcome. The establishment of the Duke Endowment in 1924, with a provision for the endowment to establish a Duke University medical school to be opened in 1930, prevented any further consideration of, or planning for, expansion of the university medical school, at least for that time.

Dr. Manning resigned as dean in September, 1933, but continued as chairman of the department of physiology until 1939. This truly remarkable man — as professor of physiology for 39 years and dean of the medical school for 28 of these — selected and influenced hundreds of medical students who became leaders in medicine. He deserves much credit for the survival of the university's school of medicine and for its position in medical education today. Dr. Manning died in 1946.

Dr. C. S. Mangum, Dean, 1933-1937

Dr. Charles Staples Mangum, professor and chairman of the department of anatomy, succeeded Dr. Manning as dean in September, 1933. He was a superb teacher of anatomy and was a friend of every medical student because of his knowledge of his field, his humanity and his humor. He entered upon his new responsibilities with energy and enthusiasm, and five major accomplishments occurred during his tenure. The first was the establishment of the first faculty committee on admissions in 1934. The second was increased emphasis in the introductory courses. Dr. Mangum was successful in persuading the



Dr. C. S. Mangum

faculty to modify the curriculum in order to devote the major portion of one quarter the second year to courses in physical diagnosis, obstetrics, pediatrics, surgery and clinical pathology.

Yet another major accomplishment during Dr. Mangum's tenure as dean was the establishment of first a department and then a division of public health in the School of Medicine. This accomplishment must be looked upon as especially significant because Dr. Milton J. Rosenau, who had recently retired as professor of preventive medicine and dean of the School of Public Health at Harvard, agreed to accept the chairmanship of this division in North Carolina. The fourth major accomplishment was preservation of the two-year school. During the latter years of Dr. Mangum's period as dean, another serious threat to two-year medical schools developed. In 1935, the Council of Medical Education and Hospitals of the American Medical Association decided that these institutions after 1937 would no longer be listed among the approved medical schools. This action naturally also had repercussions in the Association of American Medical Colleges.

which at first was inclined to accept the decision.

In this controversy, President Frank Porter Graham, Dr. Mangum, and Dr. MacNider played leading roles in the attempt to persuade the Council on Medical Education and the Association of American Medical Colleges to reverse their positions and, thus, save, for the time being, the two-year schools.

As a result of the support of many of the strong four-year schools and the forcefulness of arguments of President Graham and Dr. MacNider, the council agreed that two-year medical schools would continue to be approved and listed officially as "schools of basic medical sciences," not as approved two-year medical schools. And so the battle was won, although the war was not over.

The fifth major accomplishment was the construction of MacNider Hall. This project was in the blueprint stage when illness forced Dr. Mangum to retire in 1937. Although he died in September, 1939, before the building was completed, Dr. Mangum certainly had played an important part in the events that led to its construction.

To be continued.



By virtue of the importance of the problems related to the management of patients with end-stage renal disease and the meager resources that are currently available to implement a proper program in this area, a planning contract was funded by the Regional Medical Programs Service's Kidney Disease Control Program with the North Carolina State Board of Health.

The purposes of this contract were to evaluate the needs and resources of the entire State of North Carolina to see what would be appropriate to mount an adequate health program in this area. The significance of this particular problem is sharpened owing to the fact that there are modalities of therapy available which can be used for many patients so that useful life can be sustained and the patient maintained in a state of reasonably good health and habilitation. In contrast to the advances made in the use of dialytic techniques (artificial kidney transplantation) few advances have been made in the area for a substantial solution to the vast socioeconomic problems which the costs of these therapeutic modalities present.

Furthermore, it was the opinion of some that the State of North Carolina with a high rural to urban population ratio and lack of affluence represented problems that differed significantly from those of highly urbanized areas with greater financial and other resources. A plan for North Carolina might well be applied to most of the southeastern United States. — Louis G. Welt, *Report of the Kidney Disease Planning Board of North Carolina*, Kidney Disease Control Program of the Regional Medical Programs Service, North Carolina State Board of Health, September 1, 1969.

SPECIAL ARTICLE

Beyond Categorization— Potential Pitfalls

H. J. Proctor, M.D.

CATEGORIZING a hospital's total capability for providing emergency services has become widely accepted in the United States. It was first described in 1966 in the National Academy of Sciences publication "Accidental Death and Disability: the Neglected Disease of Modern Society," and further nurtured in 1971 by the American Medical Association's Commission on Emergency Medical Services. The American College of Surgeons endorsed categorization, the mandates for categorization were written into the Emergency Medical Services Systems Acts of 1973 and 1976, and, most recently, the Joint Commission on Accreditation of Hospitals has stipulated that hospitals categorize themselves. As a result of these requirements and financial inducements, North Carolina is taking its first reluctant steps toward categorization. It seems appropriate, therefore, to review the progress, describe some potential pitfalls, re-examine the strategy and discuss some attitudinal changes that must take place.

The two basic assumptions with

which North Carolinians have to grapple are: (1) referral of patients to appropriate centers of demonstrated proficiency will reduce mortality and morbidity, and (2) all hospital emergency departments and all physicians are not equally capable. Although surprisingly difficult to document, data from California and Vermont and from the North Carolina Regional Perinatal program support the first assumption. Trunkey¹, for example, has compared autopsy statistics from two counties in California, one with 28 hospitals all caring for trauma and one with 31 hospitals, only one of which labeled itself as a trauma center. Mortality was 30% less in the county in which a small group of interested surgeons cared for all trauma. The second assumption often surprises and even outrages hospital trustees, administrators, physicians, nurses and emergency personnel. Occasionally the concept can be accepted but only as it applies to others. Perspectives change in the process of self-examination and individuals are apt to become defensive. The American ideal is to be "first," leading to a kind of hospital "nationalism". The public unwittingly contributes to this parochial attitude, endowing their physicians and local hospitals with omnipo-

tence. This creates a self-stimulating process since it allows the citizenry to bask in reflected glory. For, after all, wasn't it their fundraising drive which bought the new coronary care monitors? Thus people who may have little or no conception of what constitutes good emergency care are unwilling to face the necessity of receiving their care elsewhere, and the job of the local physician and hospital administrator is made doubly difficult. *Education of the public as well as education of physicians and administrators is thus a necessity in any categorization plan.*

There are two ways in which categorization may be approached (1) the regulatory or quasi-regulatory, master planning approach, and (2) the voluntary, community-oriented and community-based approach. At first glance, the master planner approach appears attractive inasmuch as it is rapid and efficient and almost always results in a document that reads well. It suffers, however, because it tries to impose an ideal plan on an existing imperfect system. For example, the concept of Emergency Medical Technician bypassing hospital A to go to hospital B on the grounds that hospital B has more appropriate care available is clearly not applicable to

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much of rural North Carolina, where hospital B may be 50 miles away. More important, the master planner approach does not permit involvement of the individuals who eventually will have to make the systems function. *Local planning with assessment of capabilities is necessary.*

Two areas of North Carolina, ISA II and HSA III, have categorized their hospitals themselves. Within these regions, a total categorization of hospital capabilities may ultimately evolve so that selected hospitals might close emergency departments, thus conserving resources and money, and other hospitals might expand their capabilities, resulting in better care for both the acute and non-acute patient. To assist the regions in implementing this strategy, the North Carolina Office of Emergency Medical Services has published guidelines² describing four levels of capability:

a) Comprehensive Emergency Service

The hospital shall be fully equipped, staffed and prepared to provide the most advanced and complete medical and surgical care for all emergencies. Specialized medical, surgical and support services shall be available. It shall have a capacity adequate to handle both direct and referred patient loads from the surrounding region and to provide specialized consultative support to professional personnel at other hospitals.

b) Major Emergency Service

The hospital shall be equipped, staffed and prepared to provide advanced medical and surgical emergency procedures and specialized definitive care within specialized units. It shall have a broad range of specialty services available but may be lacking one or two highly specialized services.

c) General Emergency Service

The hospital shall be equipped and staffed in the medical and surgical specialties necessary to render emergency cardiopulmonary resuscitation and life support care. It should also be capable of providing

general medical care and performing procedures normally included under general surgery.

(d) Basic Emergency Service

The hospital shall be equipped, prepared and adequately staffed to provide at least emergency cardiopulmonary resuscitation and life support services for the critically ill and injured.

In addition, varying degrees of complexity for eight critical disease entities are described and matched with the four levels of capability.

What the guidelines do not address (nor should they), and what North Carolina physicians and health planners have yet to address, is the problem of appropriate use. The approach of determining where emergency patients should be taken solely on the basis of resources possessed by a hospital will fail. It rests on the untested assumption that if the resource is present it will be used. This is an oversimplified view of medical practice and fails to take into account patient preference, existing referral patterns, economics, local politics and local laws.

In a study conducted in Erie County, N.Y.,³ only 28% of patients visited emergency departments appropriately equipped for their needs. Sixty-six percent were seen in institutions possessing more capability than these patients required and, particularly worrisome from a medical point of view, 6% were seen in institutions unprepared to render definitive care. Such mismatches can be expected in North Carolina where, in many areas, hospitals are few and far between. *The identification and transfer of critically ill patients to appropriate hospitals must be recognized as integral to categorization.*

The two areas of North Carolina in which self-categorization has taken place have many centers classified as comprehensive and major. The descriptive process, although accurate enough, does not say whether this is good or bad or whether more or fewer centers are desirable. Major centers frequently manifest a rather passive attitude —

"Yes, if one of those comes in, we can take care of it" — but lack an enthusiasm to actively attract patients of a particular type. The local general surgeon may be competent in the management of abdominal trauma, but if there is an associated head injury and the local neurosurgeon is either not immediately available or not particularly interested in neurosurgical trauma, the lack of coordinated interest indicates that hospital should not label itself a trauma center. *The current state of categorization in North Carolina fails to provide a normative base for evaluating the findings of descriptive categorization and for translating them into prescriptive changes for future improvement. North Carolina has yet to ask, "How many centers do we need?"*

The Department of Transportation estimates that about 14% of people involved in highway accidents are hospitalized and that approximately 5% of those require care in a comprehensive center. Until similar data are collected for all categories of critical illness within a region, mere description of what currently exists without planning will make categorization an inventory only, will probably not improve patient care, and may set the stage for an "arms race" as hospitals struggle for hegemony. Tax dollars and community funds could better be spent in developing a pre-hospital care system, strengthening of diagnostic and therapeutic facilities of local emergency departments, and creating an efficient transfer system. Better vehicle equipment, better-trained transport personnel and thoughtful protocols for triage and transfer, about who shall provide which services, are essential in any case.

Community hospitals may feel threatened by the categorization process and resist, inasmuch as they perceive, quite correctly, categorization as a move to take selected patients from them. Because about 20% of all admissions to a hospital come through the emergency department, and because the average length of stay is half again as long as those admitted

electively, thus generating one third of in-patient days, the loss of critically ill patients is initially seen to inevitably lead to lower occupancy rates. This threat of lower occupancy comes at a time when regulations and regulatory bodies are establishing a fiscal penalty for low occupancy. On closer examination, since only 5% of emergency patients require the capability of a comprehensive center, the economic impact may be less than anticipated. Furthermore, at a recent joint AMA-AHA meeting on categorization in Chicago, it was estimated that it costs approximately \$2.6 million a year¹ to maintain a comprehensive trauma center to care for one patient at a time. It is economically unsound for a hospital of only moderate capability to attempt to care for a very few critically ill patients. Transfer of such patients will free hospital resources

and beds for occupancy by patients whose needs are most consistent with the hospital's overall capability. *The present data regarding the economic impact of categorization of hospitals are, at best, anecdotal.*

Re-distribution of patients will likely have an economic impact on physicians as well. In a recent survey conducted by the University of North Carolina Trauma Center,⁴ approximately 20% of the practices of surgeons certified in the state were trauma related. Of those surgeons practicing in hospitals with fewer than 200 beds, 67% made a profit from trauma surgery (\$56,212/surgeon/year) and only 23% suffered losses (\$7,500/surgeon/year), while 10% claimed neither a loss nor a profit. *There seems little economic motivation for surgeons to comply with categorization plans.*

North Carolina has made a start

and opened the famous "Pandora's box." Local involvement seems to be best, and the descriptive phase of categorization has been achieved in two geographic areas. Patient care, however, is not apt to be improved until the issues noted above are addressed and differences resolved. *Failure of local government, physicians, and administrative staffs to confront the issues and reach solutions compatible with good medical practice will inevitably result in a higher authority's imposing a solution upon us.*

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In this study, mediastinoscopy was of value in assessing mediastinal extension of carcinoma of the upper thoracic and midthoracic esophagus in five patients without endobronchial abnormality. Previously, the major application of mediastinoscopy has been the evaluation of mediastinal extension of bronchogenic carcinoma. Lymphatic drainage of the esophagus similarly involves mediastinal lymph node stations accessible to the mediastinoscope . . . [which] allows inspection and biopsy of involved nodes under direct vision. The ominous implications of positive mediastinoscopy are apparent in this series, since survival was quite short in these five patients.

Survival correlated closely with the presence of mediastinal or subdiaphragmatic spread of tumor, or both. Twenty-three of the 30 patients had extraesophageal disease. The 12 patients who were not resected died within the first postoperative year (mean survival, six months). The survival curve was similar in the 11 patients undergoing palliative resection. Of seven patients who had resection for cure, four are alive and free of disease fourteen to thirty months following operation. There were no operative deaths. The five patients with abnormal findings on mediastinoscopy lived one to five months.

Combined mediastinoscopy and celiotomy should be considered in all patients presumed to have operable carcinoma of the thoracic esophagus. Mediastinoscopy alone is of value in the assessment of carcinoma of the upper thoracic and midthoracic esophagus. — Gordon F. Murray, Benson R. Wilcox, and Peter J. K. Starek, The Assessment of Operability of Esophageal Carcinoma, *Ann Thorac Surg* 23:393-399, 1977. (Reproduced with permission; copyrighted by Little, Brown and Co., Boston.)

Social Detoxification: Myth or Fact?

Jesse O. Cavenar, Jr., M.D.,* Hallie Coppedge, A.C.S.W.,** and Elliott B. Hammett, M.D.***

ABSTRACT The area of social versus medical detoxification should be studied extensively before more funds are invested in social detoxification programs. While it is true that medical detoxification is more expensive in the short run, it may be much cheaper in the long run. With the current growing trend toward social detoxification in North Carolina, it is an ideal time for physicians to gather data on both modes and for authorities in the Department of Human Resources to encourage studies through which alcoholic patients could be randomly assigned to medical or non-medical detoxification and then followed extensively.

INTRODUCTION

THE involvement of non-physicians in the treatment of alcoholic patients is a growing trend in this country. The Uniform Alcoholism and Intoxication Treatment Act of 1971 has given impetus to the development of detoxification centers by offering federal funds to states which comply with the act. There are two basic types of detoxification centers. The medical detoxification center equipped to provide medical and other professional services has been in use in

Europe for decades and reportedly functions well and provides quality service. Only seriously ill patients, such as those with severe behavioral disturbances, head injuries, etc., must be hospitalized. The other type of center, the social detoxification center, essentially has no professional staff and does not use medication for withdrawal or treatment. The philosophy of social detoxification centers is that alcoholics can be safely and quickly detoxified in a social setting with the aid of a staff who can provide reassurance and orientation to reality. Since many social detoxification centers are operational, or in the planning stages, in North Carolina, it seems appropriate to examine the sparse scientific literature about this method of therapy.

LITERATURE

Scientific publications both praise and criticize the concept of social detoxification. Whitfield et al¹ suggest that most community-referred, ambulatory chronic alcoholic patients can be detoxified rapidly and safely without the use of psychoactive drugs. The patient's vital signs, general condition and any special problems are monitored depending on the clinical situation. Of 1,114 consecutive alcoholic patients entering the social detoxification program, only 90 were sent to a hospital emergency room; 28 of these were admitted to the hospital and the other 62 were returned to social detoxification. Only one patient developed delirium tremens

after admission to the program; 12 patients had one or more seizures. Thirty-eight patients experienced alcoholic hallucinations and were managed without drugs. Two patients manifested "classic, florid delirium tremens" which abated after 20 to 30 minutes of reality orientation therapy and did not recur. Whitfield noted four distinct advantages to social detoxification: (1) It is less expensive than medical detoxification; (2) It takes only two days whereas medical treatment takes longer; (3) There are no obtunding effects of sedatives or tranquilizers; and (4) Social detoxification precludes drugs in dealing with stress and anxiety.

These results are indeed impressive but they raise the question of whether his group was treating the same type of alcoholic patient which most physicians attempt to treat. While the incidence of alcoholic hallucinosis and delirium tremens in a large sample of alcoholic patients is unknown, the work of Isbell et al² is of importance. They studied withdrawal in well-nourished, healthy volunteers, four of whom drank 266 to 346 ml of 45% alcohol daily for seven to 34 days; on withdrawal of the alcohol they experienced weakness, anorexia, tremulousness and sweating. Six volunteers drank 383 to 489 ml of 95% alcohol daily for 48 to 87 days; on sudden withdrawal of the alcohol they experienced the above symptoms plus insomnia, nausea, vomiting, fever, hyperreflexia, diarrhea and hyper-

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tension. Five of these six had hallucinations, two seizures and three — 50% — delirium tremens. Variations between patients were wide. The person who drank the most alcohol for 55 days did not experience seizures, hallucinations or delirium tremens. Isbell's work also clearly demonstrates that withdrawal symptoms may occur while the patient is still drinking at a sustained level.

Victor and Adams³ have shown that alcohol withdrawal seizures, or seizures which occur only at withdrawal and in which the patients have normal electroencephalograms after withdrawal, are single seizures in 41% of patients who experience them and that 40% of the patients who experience one or more seizures will progress to delirium tremens. Some will be in DTs upon awakening from a seizure; others will have intervals of up to five days before its onset.

Delirium tremens is an acute organic brain syndrome characterized by confusion, fever, tachycardia, agitation, sweating and hallucinations which are most often visual and quite frightening to the patient. Thompson⁴ indicates that the mortality rate with DTs is about 15%, a decrease from about 40% near the turn of the century largely attributable to better general medical care and the use of sedative hypnotic drugs. It is generally recognized that most cases of delirium tremens can be prevented by the early treatment of withdrawal states utilizing barbiturates, paraldehydes, or a benzodiazepine, most commonly diazepam, chlor-diazepoxide or paraldehyde. Once DTs start, drug treatment is ineffective. Although drugs can help control anxiety, delirium tremens must run its course.

Thompson observes that "al-

though the drug-free objective is laudable, to withhold sedatives from the chronic alcoholic user in the early stages of withdrawal is never justified, since unnoticed progression to irreversible and lethal DTs may occur." He adds that any patient who experiences hallucinosis or "rum fits" should be under constant medical supervision, and that a patient experiencing delirium tremens should be immediately hospitalized.

Thus questions about Whitfield's findings are raised. It seems contradictory that a recognized syndrome with a reported 15% mortality could be eased by 20 to 30 minutes of reality orientation therapy. Perhaps different authors are describing various alcohol withdrawal syndromes by the same diagnostic label. It seems clearer, however, that most observers recognize alcohol withdrawal syndromes as a serious, emergency situation and that most physicians experienced in treating alcoholic patients tend to agree with Thompson.

Aside from the purely medical aspects of the treatment of the alcoholic patient, an impressive body of literature relating to the predictors of patient compliance and continuing treatment is accumulating. Gerard and Saenger⁵ have found that alcoholics who have medical evaluations and medication are more likely to remain in treatment. Smart and Gray⁶ use multivariate analysis to analyze the dropout rate among 792 alcoholic patients over a period of one year following admission to an alcohol treatment program. Their patients were relatively severe alcoholics, with only 15% scoring at or below a mean level for social drinking. The majority had a history of heavy drinking, with black-outs and craving for alcohol,

and many had lost their jobs as consequence. The most important variable found by Smart and Gray was the profession of the principal therapist. Patients dropping out of treatment were more often those who received treatment without medical evaluation or drugs, who received individual or group therapy, and who were treated at facilities with non-medical orientation. Strong support was found for the idea that medical, as opposed to non-medical, approaches to the alcoholic patient led to lower dropout rates.

Pisani⁷ states that the treatment of alcohol withdrawal should take place in a hospital. He notes that the more successful programs which provide acute care are housed in hospitals where continual medical coverage is available. While realizing that the proponents of social detoxification feel it to be economical and believe that some treatment is better than none, Pisani states: "Those who propose that some treatment is better than none may be encouraging malpractice; at least they often encourage pathology in the patient." He further argues that the acute management of alcoholics should remain a medical endeavor and that "it is folly to continue arguing that this country cannot afford to provide adequate medical care for all of our citizens."

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Dean's Page

CENTENNIAL SCHOOL OF MEDICINE University of North Carolina

Although the UNC School of Medicine is one of the youngest among the truly distinguished four-year medical schools in the United States, it actually began operation in February of 1879 as a two-year school in Chapel Hill. For a brief time in its early years (1902-1910), clinical instruction was provided in the city of Raleigh. This program was to close when the university and the state could not afford to support and develop it appropriately.

Until 1950, the school operated as a two-year program, transferring its students to four-year schools for their clinical years. It grew in strength and in reputation as the university grew, and its students were readily accepted in outstanding schools throughout the country. Very significant research and excellent teaching characterized the small faculty of the two-year school.

Dr. W. R. Berryhill succeeded Dr. William D. McNider in 1941 as dean of the school. Through the persevering efforts and wisdom of Dr. Berryhill, with the help of many devoted alumni, legislators and leading citizens of the state, a commitment to expansion of the school to four years and the development of a major academic medical center, including the North Carolina Memorial Hospital in Chapel Hill, was made by the General Assembly in 1947. The 1954 class was the first graduating class of the newly expanded school.

Another of the many major contributions made by Dr. Berryhill to the people of North Carolina and the country was the quality of the faculty leadership recruited to the school. Their names and character will long ring in these halls.

The era of national expansion of medical education reached full swing in the late 1960s and the early 1970s. The efforts of Dean Taylor and colleagues to provide for the early phase of expansion of the school were eminently successful. Faculty support was increased and facilities were built to accommodate the increasing needs and responsibilities of the school.

Now as we have entered the final quarter of the 20th Century, the school is truly distinguished, by any measure, and is a credit to the university and to the people of North Carolina. Its research endeavors in the basic medical science and clinical sciences and related fields, are national and international in scope. Its educational programs are highly sought after by the most able of students, and its patient care programs in the North Carolina Memorial Hospital are of the highest quality. Furthermore, the school, together with sister institutions and colleagues across the state, has extended its resources to all corners of North Carolina through outstanding programs of regional education. Relationships with constituencies in the state are strong, and national leadership in many fields is evident.

Perhaps one has to feel it to know it, but there is an intangible about the school which may account for its non-hierarchical environment of warm collegiality and scholarship among faculty and student and staff. It is indeed a very special place with a special ambience for learning.

The School of Medicine has fully earned its place as a key and critical part of a great university, and society is, and will continue to be, the ultimate beneficiary.

CHRISTOPHER C. FORDHAM, III, M.D.
Dean, School of Medicine
University of North Carolina



Editorials

JOIN THE CELEBRATION

It has been said that each man marches to the beat of his own drummer. If this be so, perhaps tempo determines who selects which medical specialty. Contrast, for example, orthopedics, its rhythm dictated by the slow resolution of debates between osteoblast and osteoclast and, cardiology, a state of mind attuned to the rapidity of the conduction system and the hazards of runs of uninterrupted premature ventricular contractions.

Besides biological processes, the realities of time may be defined by institutions and, especially, by their achievements. The European, aware as he is of tradition, of the long life of the medical school at Montpellier in the south of France and of the significance of Padua in the education of our first modern physician, William Harvey, would not be impressed if some college on his continent celebrated its centennial. But in the United States a hundred years is a long life, particularly if the celebrant was born to poverty and faction in the sad decades immediately after a civil war. It is then with pride and affection that we recognize a hardy centenarian in our midst, the University of North Carolina School of Medicine. While "scorners may sneer at" a mere 100 years, we can "swell with gladness" when we ponder on the good deeds done for mankind and medicine at Chapel Hill.

For our part in the festivities, the JOURNAL will offer articles, historical and scientific, quotations from some of the more notable works contributed by faculty members and, through the kindness of the Eli Lilly Co., a different front cover, a proper photograph of MacNider Hall. These efforts will continue through the year 1979 to remark the spirit and ambition for service that has driven this institution to what is most certainly only the beginning of its flowering.

Before we take leave of the subject, the physician recalled by our cover deserves attention as one of the founders of intellectual tradition. He as much as anyone was responsible for generating enthusiasm for learning and for establishing the scientific method in medicine at Chapel Hill. MacNider's studies of the effects of uranium nitrate on renal morphology and function preceded and in many ways made possible the contemporary work of Carl Gottschalk and were among the important works which culminated in the efforts chaired by Lou Welt to develop an effective therapeutic program for North Carolinians suffering from end-stage renal disease. That we now have such a program, that hemophilia holds fewer horrors than it

once did, that North Carolina, alone among 50 states has a program to alleviate illness among migrant workers, that medical education is living and well in four good schools in the Old North State are in no small measure due to the state of mind maintained at Chapel Hill since its chartering in the uncertain days after the Revolutionary War. As custodians of such tradition the responsibilities of the University of North Carolina School of Medicine are great. That they have been so well met is a tribute not only to the denizens of Chapel Hill but to all of us who are Tied to the heels either by birth or disposition.

J. H. F.

WALTER REECE BERRYHILL 1900-1979

Doctor Walter Reece Berryhill, Dean of the University of North Carolina School of Medicine from 1941 to 1965, died on January 1, 1979. With his death, most significant era in the history of the UNC School of Medicine — and a living legend of the school alumni — came to an end.

Doctor Berryhill, a native of Mecklenburg, first came to Chapel Hill as an entering freshman in the Fall of 1917. As an undergraduate at the university, he distinguished himself as a scholar and student leader in the very distinguished class of '21. Following graduation, he taught school for two years. He then returned to Chapel Hill, completed the two year medical course and, as was the custom with the top scholars, transferred to the Harvard Medical School. After graduation from Harvard, he took his house-staff training in internal medicine on the Harvard Medical Service of the Boston City Hospital. He then accompanied Doctor Joseph Wearn, another Mecklenburg and the first Chairman of the Department of Medicine of the Western Reserve Medical School, to Cleveland to become the first Chief Resident in Medicine at Western Reserve.

In 1933, Doctor Berryhill came back to Chapel Hill and this time he remained until his death. In 1941, he became dean of the medical school, and it was in this position that he enhanced the life of the medical school, the university, and, indeed, the people of North Carolina.

Doctor Berryhill's major accomplishments during his tenure as dean were at least three: (1) from 1941 to 1951 he made certain that the quality of the faculty, the instruction, and the students was such that the medical

school was nationally recognized as an outstanding two-year school and its students were able to transfer with ease to the major medical schools of the country; (2) Doctor Berryhill was the central figure in seeing the need for a state four-year medical school, marshaling the support for approval by the legislature, planning its development, and assembling a first-rate faculty to start its operation; (3) lastly, Doctor Berryhill's leadership as dean in the first decade of the four-year school was clearly the most important factor in developing a school devoted to excellence in teaching, patient care and research.

Doctor Berryhill remained active after retiring as dean of the medical school. He became the first Director of the Division of Education and Research in Community Medical Care. His commitment to excellence and the health of the people of North Carolina once again became manifest in that the work that he performed as head of the division set the stage for the state's Health Education Centers program in the state, a program that is now recognized as one of the most effective and outstanding of these programs in the nation.

Doctor Berryhill retired from the University in 1953, but he continued to be an advisor and friend to the faculty, students, and the leadership of the medical school and university until his death.

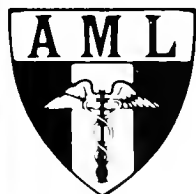
These are some of his accomplishments, but the man was much more than these. For those who knew him, he was the embodiment of dedication, integrity, loyalty and selflessness — qualities which assumed saintly quantities when one was in accord with him and which might have been thought of as inordinate Scotch-Irish contrariness in disputatious matters.

But whether or not all might not have agreed with him all the time on specific issues, all ardently agree that Doctor Berryhill was totally dedicated to his beloved university and medical school — as well as to his state — and that they are all nobler because of him.

As is the case with many great men, he did not stand alone. Throughout his professional life, he had the help of an equally dedicated, perceptive, modest person — Mrs. Berryhill. Together — and synergistically — they made the four-year medical school at Chapel Hill.

As was written of him on another occasion: "His strong heart and Scottish tenacity are sturdy reminders of what Carolinians came from. But better still, Doctor Reece Berryhill is an eloquent testimony to the best we can be."

WILLIAM B. BLYTHE, M.D.
Chapel Hill, N.C.



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Correspondence

AN UNAPPRECIATED SIGN IN SPONTANEOUS PNEUMOTHORAX

To the Editor:

Pneumothorax is a remediable condition and thus a high priority diagnosis for primary physicians. Since many physicians see patients without easy access to x-ray facilities, the primary physician frequently must diagnose or at least be highly suspicious of a pneumothorax by physical signs.

All the signs that I find discussed in the various textbooks are not very reliable and seldom seen.

The most reliable sign that I encounter in partial spontaneous pneumothorax is tubular breathing heard over the lateral chest wall in the mid-axillary line area. As far as I can determine this sign has not been previously described and if so has not been appreciated enough to be familiar to textbook writers or practicing physicians.

The converse is also generally true. That is, if one hears vesicular breath sounds over the mid-axillary area, one can be reasonably certain that no significant pneumothorax is present.

I believe this sign has not been appreciated or commented on because most physical diagnosis books and the literature describe complete pneumothorax which represents only a small percentage of the total pneumothoraces I see.

TALLY E. LASSITER, M.D.
619 E. 12th Street
Washington, N.C. 27889

REVIEWER'S COMMENT

An interesting observation. However, I am not certain that this is a specific sign in that a pneumonia in the lateral chest with an open bronchus could produce the same findings although the percussion note should be flat. It does remind one that listening to the lateral chest, which medical students and house officers frequently neglect, is an important aspect of the chest examination. I was taught that examination of the area frequently discloses the status of the ipsilateral hilar airways and I have picked up several partial obstructing lesions in the hilum by detecting a wheez transmitted to the mid-axillary line.

Committees and Organizations



UNC-CH SCHOOL OF MEDICINE HONORARY DEGREES

The University of North Carolina at Chapel Hill presented honorary degrees to four distinguished educators and public servants Saturday, February 10, in recognition of the School of Medicine's 100th birthday celebration.

The special convocation held in Memorial Hall signaled the end of two days of special lectures and

events held to mark the medical school's centennial.

The honorary degree recipients were: Dr. Donald Frederickson, director of the National Institutes of Health; the Honorable L. Richardson Preyer, Congressman from the 6th Congressional District of North Carolina; Dr. Frederick Chapman Robbins, dean of the School of Medicine at Case-Western Reserve University; and Dr. Lewis Thomas, president and chief executive officer of the Memorial-Sloan Kettering Cancer Center.

Frederickson, who gave the convocation address, has headed the NIH since 1975. Earlier he was member of the National Heart and Lung Institute, serving as its director from 1966-68. He also was president of the National Academy of Science's Institute of Medicine from 1974-75.

He is a graduate of the University of Michigan



Dr. Donald S. Frederickson

where he received his B.S. and M.D. degrees and was a member of Phi Beta Kappa and Alpha Omega Alpha. Considered a distinguished biomedical scientist, Frederickson holds among other awards the Gold Medical Award from the American College of Cardiology, the International Award for Heart and Vascular Research from the James F. Mitchell Foundation for Medical Education and Research and the Dis-

tinguished Achievement Award from Modern Medicine.

Preyer, who has been a member of Congress since 1968, is highly regarded for his special interest and support of health education. He is chairman of the House Select Committee on Ethics and a member of the Kennedy subcommittee of the Select Committee on Assassinations.

A Greensboro native, he is a former Greensboro city judge, a North Carolina Superior Court judge and a U.S. District judge.

Preyer is a Princeton graduate and holds a law degree from Harvard University. He also holds honorary degrees from Elon College, UNC at Greensboro and Davidson. In 1975, he was awarded the Distinguished Service Award by the UNC-CH School of Medicine.

Robbins received the Nobel Prize in physiology and medicine in 1954 (along with Dr. John Enders and Dr. Thomas Weller) for his work on the poliomyelitis virus. A faculty member at Case-Western Reserve University since 1952, he was named dean of its medical school in 1966. He also is professor of pediatrics and community health.

He received both the A.B. and B.S. degrees from the University of Missouri, the M.D. degree from Harvard University and honorary degrees from John Carroll University and the University of Missouri.

Thomas has been president of the Sloan-Kettering Institute since 1973. He is a former dean of the New

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York University School of Medicine and Yale University School of Medicine.

He is the author of "The Lives of a Cell," for which he won the National Book Award in 1975. He received the Distinguished Achievement Award from Modern Medicine in 1975. Thomas holds a B.S. degree from Princeton University, an M.D. degree from Harvard University and an M.A. degree from Yale University.

UNC-CH SCHOOL OF MEDICINE DISTINGUISHED SERVICE AWARDS



Seven persons, including six alumni of the University of North Carolina at Chapel Hill, received the Distinguished Service Award from the UNC-CH School of Medicine, during its centennial-year celebration Feb. 9. Those who received the award were:



Dr. William B. Deal



Dr. J. Dewey Dorsett

William B. Deal, M.D., dean of the College of Medicine and vice-president for health affairs at the University of Florida in Gainesville. Deal's abilities were recognized early at UNC-CH, where he was the recipient of the John M. Morehead Scholarship and the James B. Bullitt Award. Upon graduation from the UNC-CH School of Medicine in 1963, Deal entered post-graduate training at the University of Florida School of Medicine, where he later joined the faculty in the departments of medicine, community health and family medicine, the Graduate School and the School of Pharmacy.

J. Dewey Dorsett, M.D., has long contributed to the advancement of medicine in North Carolina. He received his undergraduate degree and Certificate of Medicine at UNC-CH before completing his medical education at the Washington University School of Medicine. Dorsett returned to Chapel Hill as a resident and cardiology fellow before joining the medicine faculty as instructor, then assistant professor of medicine. He later entered private practice in Charlotte. He is a fellow and former North Carolina governor of

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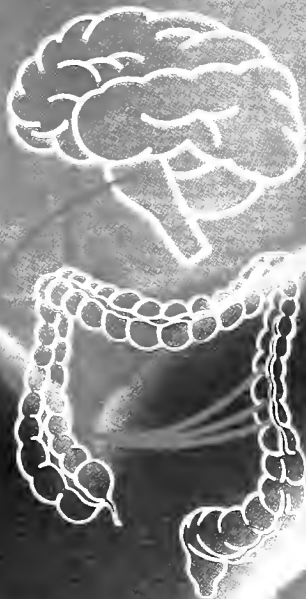
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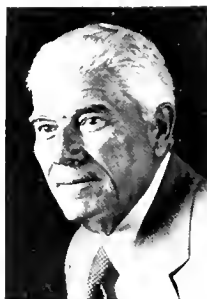
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Louis C. Stephens

the American College of Cardiology and former president of the North Carolina Heart Association. Dorsett has served as Councillor and member of the Visiting Committee of the UNC-CH Medical Alumni Association. He served as the 1978 president of the UNC-CH General Alumni Association.

William L. Fleming, M.D., is a figure of national stature in preventive medicine and in the control of venereal disease. A graduate of the Vanderbilt University School of Medicine, Fleming trained as a Milbank Fellow at Johns Hopkins Hospital and was a staff member of the International Health Division of the Rockefeller Foundation before beginning his distinguished career as research professor of syphilology in the UNC-CH School of Public Health. Fleming served as assistant dean of the medical school from 1957 until 1970 and chaired the Department of Preventive Medicine until 1970. He recently retired as professor of medicine and preventive medicine. A member of numerous scholarly and medical organizations, he is a consultant to the U.S. Public Health Service, a member of the Public Advisory Committee on Venereal Disease Control to the Surgeon General and a past president of the American Venereal Disease Association. In 1975, he received the Distinguished Service Award from the Venereal Disease Section of the North Carolina Public Health Association. That same year, Fleming received the William Freeman Snow Award, in recognition of his leadership in advancing the goals of the American Social Health Association.

Fred G. Patterson, M.D., is recognized for his contributions in maintaining a harmonious relationship between academic and practicing physicians throughout the state. He is a leader in North Carolina medicine, holding offices in numerous state and local medical associations. Patterson received his undergraduate degree and Certificate of Medicine from UNC-CH, receiving his medical degree from the University of Pennsylvania. He trained at Geisinger Memorial Hospital in Pennsylvania and the Medical College of Virginia before assuming a fellowship in pathology at UNC-CH. He has since served his Alma Mater as clinical professor and preceptor for the Departments of Family Medicine and Medicine.

Erle E. Peacock Jr., M.D., is a nationally-known plastic surgeon who developed a strong faculty and curriculum at the UNC-CH School of Medicine while

serving as professor and chief of the plastic surgery division. His research in wound healing has drawn worldwide attention. After receiving a Certificate of Medicine from UNC-CH, Peacock received his medical degree from Harvard University. Following postgraduate training at Roosevelt Hospital in New York, Peacock advanced his skills in hand surgery while serving as a captain in the Army, then continued his training in surgery and plastic surgery at North Carolina Memorial Hospital and Barnes Hospital in St. Louis, respectively. In 1969, Peacock became chairman of the Department of Surgery at the University of Arizona and last year he was named professor of surgery at Tulane University's School of Medicine.

Louis C. Stephens has made lasting contributions toward the advancement of the School of Medicine at UNC-CH. He has served on the board of the Medical Foundation and its development committee, on the Burn Center committee and is president of the Co-



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Founders Club. The president of The Pilot Life Insurance Company, Stephens is widely recognized as a business and civic leader. His continued interest in education and learning is demonstrated through his memberships on the Board of Trustees at UNC-Greensboro and the board of the Research Triangle Institute. He serves on the board of Moses H. Cone Memorial Hospital and is a member of numerous civic organizations. Stephens received his undergraduate degree from UNC-CH before earning a masters degree in business administration from Harvard University. He served as a lieutenant commander in the Navy during World War II before returning to North Carolina to begin what has become a distinguished career.

S. George Hatem, M.D., the legendary Dr. Ma Hai-Teh of the People's Republic of China, attended the University of North Carolina at Chapel Hill before receiving his medical degree from the University of Geneva. On route home to the United States, he traveled with friends to China and became involved



Dr. S. George Hatem

with the country and its people. He once served as personal physician to Mao Tse-Tung and became Chief of Staff of the Institute of Dermatology and Venereology. Hatem played a major role in virtually eliminating venereal diseases and prostitution in the People's Republic of China. His nephew is a first-year medical student at the UNC-CH School of Medicine.



... cases diagnosed as Factor VII deficiency, SPCA deficiency and hypoproconvertinemia may be a heterogeneous group.

The following paper describes a follow-up study of one of the cases (R.S.) previously studied. . . . It will be shown that the factor deficient in this patient is similar to but not identical with the one lacking in the patient of Alexander, and is identical with the factor Crockett's patient lacks.

The factor our patient lacks will be referred to hereafter as the Stuart factor after the patient's surname.— Cecil Hougie, Emily M. Barrow and John B. Graham, Stuart Clotting Defect. I. Segregation of an Hereditary Hemorrhagic State from the Heterogeneous Group Heretofore Called "Stable Factor" (SPCA, Proconvertin, Factor VII) Deficiency. *J Clin Invest* 36:485-496, 1957. (Reproduced with permission)

In our preceding communication on the patient R. S., previously reported by others as hypoproconvertinemia, we pointed out that the assumption of identity must be incorrect, since the plasmas of our patient and the SPCA deficient patient of Alexander et al were mutually corrective, while our patient's plasma failed to correct that of the patient of Crockett et al. This finding implied the existence of at least two BaSO₄ adsorbable clotting factors whose lack prolongs the prothrombin time.

The factor deficient in our patient is being referred to as the Stuart factor after the patient's surname. We wish to emphasize by this nomenclature that only by cross-matching his plasma with that from other similar patients can an identity be definitely established. — John B. Graham, Emily M. Barrow and Cecil Hougie, Stuart Clotting Defect. II. Genetic Aspects of a 'New' Hemorrhagic State. *J Clin Invest* 36:497-503, 1957. (Reproduced with permission)

Blood from patients with classical hemophilia has a prolonged clotting time, but when tissue thromboplastin is added as in the usual "prothrombin time" determination, hemophilic plasma clots as rapidly as does normal plasma. The normal prothrombin time in hemophilia has apparently over-shadowed other observations on the influence of thromboplastins on the clotting of hemophilic plasma.

In this study we have compared the effectiveness of several thromboplastins in accelerating the clotting of hemophilic and normal plasmas. On the basis of our findings it is suggested that thromboplastins may be classified as complete or partial. Complete thromboplastins clot normal and hemophilic plasmas equally fast, while partial thromboplastins clot hemophilic plasmas less rapidly than they do normal plasmas. Based on the differential reaction of hemophilic plasmas with complete and partial thromboplastins, we are proposing two new procedures: (1) a presumptive test for the diagnosis of hemophilia, and (2) a simple method for the assay of antihemophilic factor (AHF) in plasma. — Robert D. Langdell, Robert H. Wagner and Kenneth M. Brinkhous. Effect of Antihemophilic Factor on One-Stage Clotting Tests. *J. Lab Clin Med* 41:637-647, 1953. (Reproduced with permission; copyrighted by The C. V. Mosby Co., St. Louis, Mo.)

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 Mosis, Edwin Lee, MD, (FP) 112 Doctors Bldg., Franklin 28734
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 Nut, Ms. Rachel Ann (STUDENT) B4-39 1950 Beach St., Winston-Salem 27103
 Pasy, Stanley Preston, Jr. (STUDENT) 205-G Eastbrook Dr., Greenville 27834
 Prib, Harold Dietsch, MD, (GS) 320 McCasky Road, Williamston 27892

Olack, Jerome Andrew, MD, (R) 1006 Friendly Road, Dunn 28334
 Olive, Kenneth Everett (STUDENT) 2407 Umstead Avenue, Greenville 27834
 Overton, John Blanton, MD, (GS) 627 Lake Dr., Salisbury 28144
 Philipp, Roy Jacob, MD, (IM) 250 Charlois Blvd., Winston-Salem 27103
 Richardson, Carol Warner (STUDENT) 509 E. 4th St., Greenville 27834
 Riether, Anne Marie Antoinette (STUDENT) 905 Dawes St., Chapel Hill 27514
 Rosenfeld, William Alloy, MD, (GP) P.O. Box 194, Swan Quarter 27885
 Stephens, Russell Lee (STUDENT) 210 E. 12th Street, Greenville 27834
 Taylor, Marshall Carney, MD, (DR) 608 E. 12th Street, Washington 27889
 Wallace, James G., MD, (PS) P.O. Box 2000, Pinehurst 28374
 Wetter, James Michael, MD, (FP) 1601-B Owen Dr., Fayetteville 28304
 White, Hayes MacMurry, MD, (GS) 220 Foust St., Asheville 27203
 Williams, Randolph Meade, MD, (ORS) 604 Medical Dr., Greenville 27834
 Wolfman, Neil Turner, MD, (R) Bowman Gray Dept. of Radiology, Winston-Salem 27103
 Zipf, Robert Eugene, Jr., MD, (PTH) 120 Newley Court, Rocky Mount 27801

WHAT? WHEN? WHERE? In Continuing Education

Please note: 1. The Continuing Medical Education Programs at Bowman Gray, Duke, East Carolina and UNC Schools of Medicine, Dorothea Dix, Wayne County Hospital and Burroughs Wellcome Company are accredited by the American Medical Association. Therefore CME programs sponsored or co-sponsored by these schools automatically qualify for AMA Category 1 credit toward the AMA's Physician Recognition Award, and for North Carolina Medical Society Category A credit. Where AAFP credit has been requested or obtained, this also is indicated.

2. The "place" and "sponsor" are indicated for a program only when these differ from the place and source to write "for information."

PROGRAMS IN NORTH CAROLINA

April 2-6

7th Annual Tutorial-Radiology of the Chest
 Sponsor: The Department of Radiology, Duke University School of Medicine
 Fee: \$300
 Credit: 30 hours
 For Information: Robert McLelland, M.D., Radiology, Box 3808, Duke University School of Medicine, Durham 27710

April 6-7

Practical Pediatrics
 Fee: \$35
 Credit: 10 hours
 For Information: Emery Miller, M.D., Associate Dean for Continuing Education, Bowman Gray School of Medicine, Winston-Salem 27103

April 10

32nd Annual Greensboro Academy of Medicine Symposium on Rheumatology and Immunology
Place: Jefferson Standard Club
Fee: None
For Information: Robert M. Gay, M.D., Moses H. Cone Memorial Hospital, Greensboro 27420

April 11

Current Clinical Problems in Family Practice
Place: Pitt County Memorial Hospital, Greenville
Fee: \$15
Credit: 3 hours
For Information: F. M. Simmons Patterson, M.D., Assistant Dean for Continuing Education, East Carolina University School of Medicine, Greenville 27834

April 12

32nd Annual Medical Symposium — Greensboro Academy of Medicine
Place: Jefferson Standard Club
Fee: None
Credit: 6 hours AMA Category I and AAFP
For Information: Robert M. Gay, M.D., Moses Cone Memorial Hospital, Greensboro 27420

April 18-20

Governor's Conference on Mental Health
Place: Raleigh Civic Center
For Information: Mrs. Margaret Riddle, Department of Administration, 116 Jones Street, Raleigh 27603

April 18-20

Rainey Orthopedic Lectures
Place: Berryhill Hall
For Information: William Wood, M.D., Director of Continuing Education, UNC School of Medicine, 319 MacNider Building 202-H, Chapel Hill 27514

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April 19

8th Annual New Bern Symposium — Endocrinology and Metabolism
For Information: William B. Hunt, Jr., M.D., Symposium Director
P.O. Box 2157, New Bern 28560

April 20-21

E. C. Hamblen Symposium on Reproductive Endocrinology
Place: Duke University Medical Center
Fee: \$100
Credit: 10½ hours
For Information: R. H. Wiebe, M.D., Duke University Medical Center, Durham 27710

April 27-28

12th Malignant Disease Symposium
Fee: \$90
Credit: 9 hours
For Information: William Wood, M.D., Director of Continuing Education, UNC School of Medicine, 319 MacNider Building 202-H, Chapel Hill 27514

April 27-28

Perspectives on Pain Management
Fee: \$100
Credit: 12 hours
For Information: Emery Miller, M.D., Associate Dean for Continuing Education, Bowman Gray School of Medicine, Winston-Salem 27103

May 2-3

Annual Meeting of the North Carolina Thoracic Society
Place: Royal Villa, Raleigh
For Information: Mr. C. Scott Venable, Executive Director, North Carolina Lung Association, P.O. Box 127, Raleigh 27602

May 3-6

125th Annual Session of the North Carolina Medical Society
Place: Pinehurst Hotel and Country Club, Pinehurst
For Information: Mr. William N. Hilliard, Executive Director, North Carolina Medical Society, P.O. Box 27167, Raleigh 27627

May 9-10

Respiratory Care Symposium: Breath of Spring 1979
Fee: \$35
Credit: 10 hours
For Information: Emery Miller, M.D., Associate Dean for Continuing Education, Bowman Gray School of Medicine, Winston-Salem 27103

May 18-19

5th Annual Course in Perinatology
Fee: \$50
Credit: 9 hours
For Information: William Wood, M.D., Director of Continuing Education, UNC School of Medicine, 319 MacNider Building 202-H, Chapel Hill 27514

May 18-20

7th Annual Pediatric Pulmonary Disease Conference
Fee: \$30.00
Credit: 12 hours
For Information: Alexander Spock, M.D., P.O. Box 2994, Duke University Medical Center, Durham, North Carolina 27710

May 23-25

North Carolina Heart Association Annual Meeting and Scientific Session
Place: Winston-Salem Hyatt House
For Information: North Carolina Heart Association, 1 Heart Circle, Chapel Hill 27514

June 9

Update in Ophthalmology
Place: 105 Berryhill Hall
Fee: \$30
Credit: 3 hours
For Information: William Wood, M.D., Director of Continuing Education, UNC School of Medicine, 319 MacNider Building 202-H, Chapel Hill 27514

Dyazide[®]

Each capsule contains 50 mg. of Dyrenium[®] (brand of triamterene) and 25 mg. of hydrochlorothiazide.

Makes Sense in Hypertension^{*}

Before prescribing, see complete prescribing information in SK&F Co. literature or PDR. A brief summary follows:

^{*} Warning

This drug is not indicated for initial therapy of edema or hypertension. Edema or hypertension requires therapy titrated to the individual. If this combination represents the dosage so determined, its use may be more convenient in patient management. Treatment of hypertension and edema is not static, but must be reevaluated as conditions in each patient warrant.

Contraindications: Further use in anuria, progressive renal or hepatic dysfunction, hyperkalemia. Pre-existing elevated serum potassium. Hypersensitivity to either component or other sulfonamide-derived drugs.

Warnings: Do not use potassium supplements, dietary or otherwise, unless hypokalemia develops or dietary intake of potassium is markedly impaired. If supplementary potassium is needed, potassium tablets should not be used. Hyperkalemia can occur, and has been associated with cardiac irregularities. It is more likely in the severely ill, with urine volume less than one liter/day, the elderly and diabetics with suspected or confirmed renal insufficiency. Periodically, serum K⁺ levels should be determined. If hyperkalemia develops, substitute a thiazide alone, restrict K⁺ intake. **Associated widened QRS complex or arrhythmia requires prompt additional therapy.** Thiazides cross the placental barrier and appear in cord blood. Use in pregnancy requires weighing anticipated benefits against possible hazards, including fetal or neonatal jaundice, thrombocytopenia, other adverse reactions seen in adults. Thiazides appear and triamterene may appear in breast milk. If their use is essential, the patient should stop nursing. Adequate information on use in children is not available.

Precautions: Do periodic serum electrolyte determinations (particularly important in patients vomiting excessively or receiving parenteral fluids). Periodic BUN and serum creatinine determinations should be made, especially in the elderly, diabetics or those with suspected or confirmed renal insufficiency. Watch for signs of impending coma in severe liver disease. If spiro-lactone is used concomitantly, determine serum K⁺ frequently; both can cause K⁺ retention and elevated serum K⁺. Two deaths have been reported with such concomitant therapy (in one, recommended dosage was exceeded, in the other serum electrolytes were not properly monitored). Observe regularly for possible blood dyscrasias, liver damage, other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving triamterene, and leukopenia, thrombocytopenia, agranulocytosis, and aplastic anemia have been reported with thiazides. Triamterene is a weak folic acid antagonist. Do periodic blood studies in cirrhotics with splenomegaly. Antihypertensive effect may be enhanced in post-sympathectomy patients. Use cautiously in surgical patients. The following may occur, transient elevated BUN or creatinine or both, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), hyperuricemia and gout, digitalis intoxication (in hypokalemia), decreasing alkali reserve with possible metabolic acidosis. Dyazide interferes with fluorescent measurement of quinidine.

Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth, anaphylaxis, rash, urticaria, photosensitivity, purpura, other dermatological conditions, nausea and vomiting, diarrhea, constipation, other gastrointestinal disturbances. Necrotizing vasculitis, paresthesias, icterus, pancreatitis, xanthopsia and, rarely allergic pneumonitis have occurred with thiazides alone.

Supplied: Bottles of 100 and 1000 capsules. Single Unit Packages of 100 (intended for institutional use only).

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**When painful spasm
is the presenting
symptom...**



...in the functional bowel/irritable bowel syndrome*

Bentyl®

(dicyclomine hydrochloride USP)

10 mg. capsules, 20 mg. tablets,
10 mg./5 ml. syrup, 10 mg./ml. injection

helps control abnormal motor activity
with minimal anticholinergic side effects†

Demonstrated smooth muscle relaxant activity.

In this double-blind study, twenty patients having G.I. series and exhibiting spasm were randomly selected to receive either 2 cc. of Bentyl or sodium chloride intramuscularly. Ten minutes after the injection another radiograph was taken . . .

. . . Bentyl produced definite relaxation in 8 of 10 patients. The sodium chloride produced relaxation in only 3 of 10. No side effects occurred in either group of patients.



Pylorospasm has almost totally blocked passage of barium meal.



Barium meal beginning to pass 10 minutes after intramuscular injection of 20 mg. Bentyl.

"The correlation of spasm relief and drug given was excellent."

*This drug has been classified "probably" effective in treating functional bowel/irritable bowel syndrome

†See Warnings, Precautions and Adverse Reactions.

See following page for prescribing information.

Reference:

King, J.C. and Starkman, N.M.: Evaluation of an antispasmodic. Double-blind evaluation to control gastrointestinal spasms occurring during radiographic examination. A preliminary report. Western Med. 5:356-358, 1964

Merrell

Bentyl (dicyclomine hydrochloride USP)

Capsules, Tablets, Syrup, Injection

AVAILABLE ONLY ON PRESCRIPTION
Brief Summary

INDICATIONS

Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FDA has classified the following indications as "probably" effective:

For the treatment of functional bowel/irritable bowel syndrome (irritable colon, spastic colon, mucous colitis) and acute enterocolitis.

THESE FUNCTIONAL DISORDERS ARE OFTEN RELIEVED BY VARYING COMBINATIONS OF SEDATIVE, REASSURANCE, PHYSICIAN INTEREST, AMELIORATION OF ENVIRONMENTAL FACTORS.

For use in the treatment of infant colic (syndrome).

Final classification of the less-than-effective indications requires further investigation.

CONTRAINDICATIONS Obstructive uropathy (for example, bladder neck obstruction due to prostatic hypertrophy); obstructive disease of the gastrointestinal tract (as in achalasia, pyloroduodenal stenosis); paralytic ileus, intestinal atony of the elderly or debilitated patient, unstable cardiovascular status in acute hemorrhage, severe ulcerative colitis, toxic megacolon complicating ulcerative colitis, myasthenia gravis. **WARNINGS** In the presence of a high environmental temperature, heat prostration can occur with drug use (fever and heat stroke due to decreased sweating). Diarrhea may be an early symptom of incomplete intestinal obstruction, especially in patients with ileostomy or colostomy. In this instance treatment with this drug would be inappropriate and possibly harmful. Bentyl may produce drowsiness or blurred vision. In this event, the patient should be warned not to engage in activities requiring mental alertness such as operating a motor vehicle or other machinery or perform hazardous work while taking this drug. **PRECAUTIONS** Although studies have failed to demonstrate adverse effects of dicyclomine hydrochloride in glaucoma or in patients with prostatic hypertrophy, it should be prescribed with caution in patients known to have or suspected of having glaucoma or prostatic hypertrophy. Use with caution in patients with Autonomic neuropathy. Hepatic or renal disease, Ulcerative colitis. Large doses may suppress intestinal motility to the point of producing a paralytic ileus and the use of this drug may precipitate or aggravate the serious complication of toxic megacolon. Hyperthyroidism, coronary heart disease, congestive heart failure, cardiac arrhythmias, and hypertension. Hiatal hernia associated with reflux esophagitis since anticholinergic drugs may aggravate this condition.

Do not rely on the use of the drug in the presence of complication of biliary tract disease. Investigate any tachycardia before giving anticholinergic (atropine-like) drugs since they may increase the heart rate. With overdosage, a curare-like action may occur. **ADVERSE REACTIONS** Anticholinergics/antispasmodics produce certain effects which may be physiologic or toxic depending upon the individual patient's response. The physician must delineate these. Adverse reactions may include xerostomia; urinary hesitancy and retention, blurred vision and tachycardia, palpitations, mydriasis; cycloplegia, increased ocular tension, loss of taste, headache, nervousness, drowsiness, weakness, dizziness, insomnia, nausea, vomiting, impotence, suppression of lactation, constipation; bloated feeling, severe allergic reaction or drug idiosyncrasies including anaphylaxis, urticaria and other dermal manifestations; some degree of mental confusion and/or excitement, especially in elderly persons, and decreased sweating. With the injectable form there may be a temporary sensation of lightheadedness and occasionally local irritation. **DOSAGE AND ADMINISTRATION** Dosage must be adjusted to individual patient's needs.

Usual Dosage Bentyl 10 mg capsule and syrup **Adults** 1 or 2 capsules or teaspoonfuls syrup three or four times daily. **Children** 1 capsule or teaspoonful syrup three or four times daily. **Infants** ½ teaspoonful syrup three or four times daily. (May be diluted with equal volume of water.) Bentyl 20 mg **Adults** 1 tablet three or four times daily. Bentyl Injection **Adults** 2 ml (20 mg) every four to six hours intramuscularly only. **NOT FOR INTRAVENOUS USE. MANAGEMENT OF OVERDOSE** The signs and symptoms of overdose are headache, nausea, vomiting, blurred vision, dilated pupils, hot, dry skin, dizziness, dryness of the mouth, difficulty in swallowing, CNS stimulation. Treatment should consist of gastric lavage, emetics, and activated charcoal. Barbiturates may be used either orally or intramuscularly for sedation but they should not be used if Bentyl with Phenobarbital has been ingested. If indicated, parenteral cholinergic agents such as Urecholine® (bethanechol chloride USP) should be used.

Product information as of October, 1978.

Injectable dosage forms manufactured by CONNAUGHT LABORATORIES, INC., Swiftwater, Pennsylvania 18370 or TAYLOR PHARMACAL COMPANY, Decatur, Illinois 62525 for MERRELL-NATIONAL LABORATORIES, Division of Richardson-Merrell Inc., Cincinnati, Ohio 45215, U.S.A.

Merrell

MERRELL NATIONAL LABORATORIES
Division of Richardson-Merrell Inc.
Cincinnati, Ohio 45215 U.S.A.

June 20-21

Surgery Symposia

Place: Appalachian State University

For Information: Office of Continuing Medical Education, East Tennessee State University, Johnson City, Tennessee 37601

June 21-23

Practical Dermatology

Place: Emerald Isle

Fee: \$50

Credit: 7 hours

For Information: W. M. Sams, Jr., M.D., N.C. Memorial Hospital, Chapel Hill 27514

June 21-23

Mountain Top Medical Assembly

Place: Waynesville Country Club

For Information: Clinton L. Border, Jr., M.D., 204 Depot Street, Waynesville 28786

July 9-12

Annual Meeting Blue Ridge Institute

Place: Black Mountain

Sponsor: North Carolina Lung Association

Fee: \$25

For Information: Mr. C. Scott Venable, Executive Director, North Carolina Lung Association, P.O. Box 27985, Raleigh 27611

July 9-13

Duke University Medical Center Postgraduate Course

Place: Atlantic Beach

Fee: \$175

Credit: 30 hours

For Information: M. Henderson Rourke, M.D., Director of Continuing Medical Education, Duke University Medical Center, Durham 27710

July 12-14

First Annual Mountain Workshop

Place: Asheville

Fee: \$100

Credit: 12 hours

For Information: Emery C. Miller, M.D., Associate Dean for Continuing Education, Bowman Gray School of Medicine, Winston-Salem 27103

July 30-August 4

Diagnostic Radiology Including Ultrasound, CT Scanning and Nuclear Medicine

Place: Atlantic Beach

Fee: \$250

Credit: 30 hours

For Information: Robert McLelland, M.D., Radiology-Box 3808, Duke University School of Medicine, Durham 27710

August 10-11

Electron Microscopy in Diagnostic Pathology

Place: Babcock Auditorium

Fee: \$90

Credit: 7 hours

For Information: Emery C. Miller, M.D., Associate Dean for Continuing Education, Bowman Gray School of Medicine, Winston-Salem 27103

September 13-16

The 1979 Duke University Invitational Assembly for Advanced Urology

Place: Pinehurst Hotel and Country Club

Credit: 16 hours

For Information: Linda Mace, Assembly Secretary, Box 3707, Duke Hospital, Durham 27710

ITEMS OF SPECIAL INTEREST

April 4-6

National Conference on High Blood Pressure Control

Place: Washington Hilton, Washington, D.C.

Fee: \$75

Credit: 12 hours

For Information: National Conference on High Blood Pressure Control, 1501 Wilson Boulevard, Suite 600, Arlington, Virginia 22209

May 6-10

nd International Symposium on Adolescent Medicine
Place: Mayflower Hotel, Washington, D.C.
ponsor: The Society for Adolescent Medicine
Fee: \$150
For Information: The Institute for Continuing Education, P.O. Box 11083, Richmond, Virginia 23230

June 29-30

Medical Horizons: Hypertension and Cardiovascular Disease
Place: Myrtle Beach, South Carolina
Fee: \$20
Credit: 10 hours
For Information: Emery C. Miller, M.D., Associate Dean for Continuing Education, Bowman Gray School of Medicine, Winston-Salem 27103

July 30-August 3

Seventh Annual Beach Workshop
Place: Myrtle Beach, South Carolina
Fee: \$150
Credit: 20 hours
For Information: Emery C. Miller, M.D., Associate Dean for Continuing Education, Bowman Gray School of Medicine, Winston-Salem 27103

PROGRAMS IN CONTIGUOUS STATES

April 6-7

Annual Stoneburner Lecture Series — New Concepts in Outpatient Management of Chronic Obstructive Pulmonary Disease and Asthma
Place: Medical College of Virginia, Richmond
Fee: \$95
Credit: 9¾ hours
For Information: Ms. Glenda Snow, Continuing Medical Education, Medical College of Virginia, Box 91, MCV Station, Richmond, Virginia 23298

April 27-28

Emergency Medicine for the Primary Care Physician
Place: Hotel Roanoke, Roanoke, Virginia
For Information: Ms. Glenda Snow, Continuing Medical Education, Medical College of Virginia, Box 91, MCV Station, Richmond, Virginia 23298

May 2-5

60th Annual Meeting of the Virginia Society of Ophthalmology and Otolaryngology, Inc.
Place: Boar's Head Inn, Charlottesville, Virginia
For Information: Richard E. Gardner, M.D., Staunton Medical Center, Staunton, Virginia 24401

June 8-10

EKG Interpretation and Arrhythmia Management
Place: Hyatt Regency, Atlanta
Fee: \$202
Credit: 15 hours
For Information: International Medical Education Corporation, 64 Inverness Drive East, Englewood, Colorado 80112

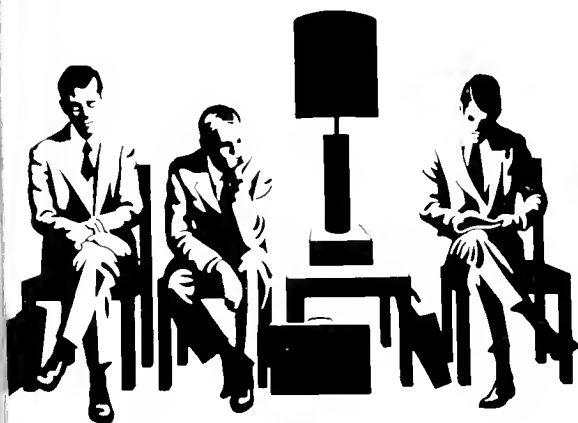
July 25-29

Contemporary Clinical Neurology
Place: Hilton Head Island, South Carolina
Sponsor: Department of Neurology, Vanderbilt University School of Medicine
Credit: 16 hours
For Information: Vanderbilt Continuing Education, 305 Medical Arts Building, Nashville, Tennessee 37212

July 26-29

3rd Annual Neurology Postgraduate Course — Review of New Developments in Neurosciences
Place: Sheraton Beach Inn, Virginia Beach
Sponsor: Medical College of Virginia
Fee: \$200
Credit: 16½ hours

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AIR FORCE. HEALTH CARE AT ITS BEST.

For Information: Ms. Glenda Snow, Continuing Medical Education, Medical College of Virginia, Box 91 MCV Station, Richmond, Virginia 23298

August 24-26

Cardiac Ischemia and Arrhythmias — Current Concepts for Diagnosis and Treatment

Place: Hilton Head, South Carolina

Fee: \$215

Credit: 13 hours

For Information: International Medical Education Corporation, 64 Inverness Drive East, Englewood, Colorado 80112

The items listed in the above column are for the six months immediately following the month of publication. Requests for listing should be received by "WHAT? WHEN? WHERE?", P.O. Box 27167, Raleigh 27611, by the 10th of the month prior to the month in which they are to appear. A "Request for Listing" form is available on request.

News Notes from the—

BOWMAN GRAY SCHOOL OF MEDICINE WAKE FOREST UNIVERSITY

Dr. Bradley B. F. Sakran, assistant professor of family medicine at the Bowman Gray School of Medicine, has developed a new system of diabetic education which he feels can be applied nationally.

Sakran, himself a diabetic, developed the system for the private practice he had in Canada before coming to Bowman Gray. The system developed out of Sakran's observations that many of the diabetics he saw in his practice knew very little about their disease. And the families of diabetics often knew even less.

Sakran's system is centered around two beliefs — that diabetes education must include both the diabetic and his family; and that the family doctor is the most likely person to assume the role of diabetes educator.

It is at the time a newly diagnosed diabetic is discharged from the hospital that in-depth diabetes education should begin, according to Sakran.

The two segments of Sakran's system are a booklet entitled "Diabetes Mellitus: A Family Affair," which is used by doctor, patients and family members, and a booklet entitled "Family Diabetes Education: How It Can Work In Your Practice."

The first booklet covers five topics which are intended to be covered, one at a time, during daily, weekly or monthly sessions. During the time when a topic is being covered, diabetics and their families have an opportunity to ask questions, express concerns and to give one another support.

The second booklet relates Sakran's experiences in Canada and addresses what Sakran sees is the frequently felt need by family doctors to refer diabetics to specialists. Sakran wants to convince the family doctor that the diabetic rightly belongs in the family doctor's office.

* * *

Dr. Paul B. Beeson, an authority on infectious dis-

eases, gave the Wingate M. Johnson Memorial Lecture January 31 at the Bowman Gray School of Medicine.

He spoke on "Changes in the Practice of Internal Medicine During the Past Half Century."

Beeson is professor of medicine at the University of Washington School of Medicine, and is a past president of the Association of American Physicians.

The annual lecture honors Dr. Wingate M. Johnson, former professor of medicine at Bowman Gray who was the first and only editor of the NORTH CAROLINA MEDICAL JOURNAL until his death in 1963. Johnson was an authority on diseases of the aged.

* * *

The program of clinical genetic services at Bowman Gray has expanded, particularly in the area of diagnosis and counseling. And the availability of services has been improved.

Since last spring, satellite clinics have been established in Asheville, Boone, Cullowhee, Murphy, Concord and Morganton. The clinics are operated as part of the state's Developmental Evaluation Program.

* * *

Allene F. Cooley, instructor in medicine, has been reappointed to a three-year term on the North Carolina Medical Society-North Carolina Nurses Association Joint Practice Committee. She has been elected co-chairman of that committee.

* * *

Mrs. Harriett T. Faulkner, director of Bowman Gray's Office of Minority Affairs, has been elected chairman of the North Carolina Health Manpower Development Program Advisory Council.

* * *

Patricia Gibson, instructor in pediatric neurology has been appointed to the Regional Advisory Committee of the Headstart Program for Region IV.

* * *

Dr. Joseph E. Johnson, III, professor and chairman of the Department of Medicine, has been appointed to the Program Committee of the North Carolina Thoracic Society.

* * *

Dr. Isadore Meschan, professor of radiology, has been recognized in "Who's Who in the World for 1978."

* * *

Dr. Richard T. Myers, professor and chairman of the Department of Surgery, has been elected to the Board of Directors of the American Cancer Society North Carolina Division.

* * *

Dr. George D. Rovere, associate professor of orthopedic surgery, received honorable mention for

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In 1977 and in 1978 you reclassified certain procedures thus lowering rates for many internal medicine and general practitioners.

In 1978 you simplified renewals by eliminating the renewal application as an annual requirement.

In 1978 you offered coverage limits up to \$2,000,000.

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In 1978 you publicized your toll free number 1-800-662-7917 to facilitate our contacting you on any insurance matter.

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scientific exhibit presented during a joint meeting of the Southern Medical Association and the Medical Association of Georgia in Atlanta.

News Notes from the

UNIVERSITY OF NORTH CAROLINA- CHAPEL HILL SCHOOL OF MEDICINE AND NORTH CAROLINA MEMORIAL HOSPITAL

Dr. Seymour L. Halleck, professor of psychiatry, was presented the Edwin Sutherland Award by the American Society of Criminology at the society's annual meeting in Dallas.

He is the first psychiatrist to win the Sutherland Award, named for the father of American scientific criminology.

A native of Chicago, Halleck earned undergraduate degrees and an M.D. from the University of Chicago and holds an honorary degree from Rockford University in Rockford, Ill.

Before joining the UNC-CH School of Medicine in 1972, he was professor of psychiatry at the University of Wisconsin at Madison. Halleck also is adjunct assistant professor in the UNC-CH School of Law.

The oral, facial and communicative disorders program of the Schools of Medicine and Dentistry has been awarded a \$79,000 continuation grant from the division of social and rehabilitation services of the U.S. Department of Health, Education and Welfare.

The three-year award will support the training of two residents per year in oral facial rehabilitation.

* * *

Drs. Clayton E. Wheeler Jr., W. Mitchell Sams Jr., Robert A. Briggaman and W. Ray Gammon presented a six-hour session, "Office Dermatology," for the AMA Regional Continuing Medical Education Program at the Hilton Great Smokies Inn in Asheville. Wheeler chaired the meeting.

The physicians also presented papers and chaired sections at the Second Annual Southeastern Consortium for Continuing Medical Education in Dermatology in Atlanta. Sams chaired the meeting.

Sams and Gammon attended the Southern Medical Association meeting in Atlanta. Gammon presented "Beta 1H Globulin in Bullous Pemphigoid."

Wheeler attended a meeting on continuing medical education sponsored by the American Academy of Dermatology and the American Board of Dermatology in Chicago. He assisted in administering the examination of the American Board of Dermatology and chaired its annual meeting as president.

Wheeler also presented "The Spectrum of Herp

TEGA-VERT TABLETS

VERTIGO • MOTION SICKNESS • NAUSEA • MOOD ELEVATION

EACH SUGAR COATED TABLET CONTAINS:

PENTYLENETETRAZOL (Metrazol)	50mg
NIACIN	50mg
DIMENHYDRINATE (Dramamine)	25mg

ADMINISTRATION AND DOSAGE: One or two tablets three or four times daily before or after meals.

INDICATIONS: **TEGA-VERT** is indicated in the symptomatic management of idiopathic vertigo, as well as that associated with Meniere's Syndrome, Arterial Hypertension, Labyrinthitis, Fenestration Procedures, Radiation Sickness and Tonic Effect. **TEGA-VERT** has also been of value in patients with clinical symptoms of senility and functional cerebral impairment as well as symptomatic nausea.

CONTRAINDICATIONS: **TEGA-VERT** should not be used in patients with known history of sensitivity to any of its ingredients. Because of its vasodilating effects, niacin is contraindicated in the presence of arterial hypotension.

PRECAUTIONS AND SIDE EFFECTS: Although there are not absolute contraindications to oral pentylenetetrazol, it should be used with caution in epileptic patients or those known to have a low convulsive threshold. Dimenhydrinate, like other antihistamines may produce sedative side effects, therefore, caution against operating mechanical equipment should be observed. This has not been a significant problem with **TEGA-VERT** since it contains a mild central nervous system stimulant. Niacin can produce transient flushing and sensations of warmth.

HOW SUPPLIED: Bottles of 100 and 1000 tablets.

CAUTION: Federal law prohibits dispensing without a prescription.

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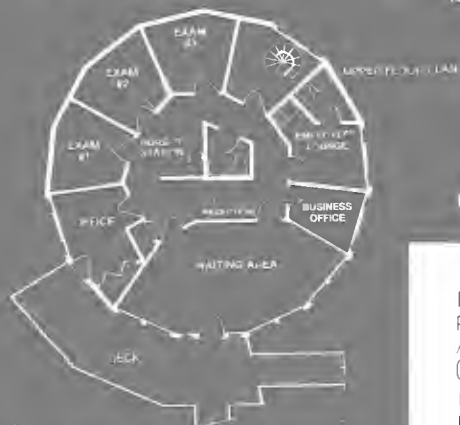


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nc

Simplex Infections" to the American Academy of Family Physicians and "Special Problems in Herpes Simplex Infections" to the Cincinnati Dermatological Society as visiting professor of the Department of Dermatology, University of Cincinnati School of Medicine.

Sams presented "Necrotizing Vasculitis" to the Quebec Association of Dermatologists and Syphilologists, as visiting professor at the University of Montreal.

* * *

Dr. John A. Ewing, director of the Center for Alcohol Studies, presented "Biopsychosocial Approaches to Drinking and Alcoholism" at Baylor College of Medicine's two day meeting, "Phenomenology and Treatment of Alcoholism" in Houston.

* * *

Dr. Stanley J. Martinkosky, director of the speech pathology service, and Dr. Sophia Hadjian of the hearing and speech center, attended the American Speech and Hearing Association Convention in San Francisco. Martinkosky presented "Peer Judgments of Alaryngeal Speech Intelligibility Under Environmental Noise Condition" and Hadjian presented "Familial Verbal Dyspraxia: A Clinical Study," co-authored by Nancy C. Saleeby, speech pathologist.

* * *

Dr. William P. Webster, director of the hospital dental clinic, presented "Medically Compromised Patients: A Closer Look at the Diabetic, the Heart Disease Patient, and Medical Emergencies in the Dental Office" to dentists at Craven County Hospital AHEC Learning Center in New Bern.

* * *

Drs. William P. Webster, Robert M. Howell, Arthur Pearsall, William Rinehart and R. Ellen Brown, oral medicine, attended the "International Congress on Hospital Dental Practice," sponsored by the American Association of Hospital Dentists, the American Dental Association and the American Hospital Association in New York.

* * *

Nancy Newman, R.N., head nurse of the burn unit, presented a program on the North Carolina Jaycee Burn Center at the Allied Health Colloquium in Chapel Hill Dec. 13.

* * *

Dr. Frank T. Stritter of the Office of Medical Studies and the School of Education, was elected national chairman of the Group on Medical Education of the Association of American Medical Colleges at the association's 89th annual meeting in New Orleans. Stritter's one year term begins in October, 1979. The group's functions are to improve medical education by collaborative research and evaluation and by ex-

BRIEF SUMMARY OF PRESCRIBING INFORMATION

ANTIMINTH® (pyrantel pamoate)

ORAL SUSPENSION

Actions. Antiminth (pyrantel pamoate) has demonstrated anthelmintic activity against *Enterobius vermicularis* (pinworm) and *Ascaris lumbricoides* (roundworm). The anthelmintic action is probably due to the neuromuscular blocking property of the drug.

Antiminth is partially absorbed after an oral dose. Plasma levels of unchanged drug are low. Peak levels (0.05-0.13 µg/ml) are reached in 1-3 hours. Quantities greater than 50% of administered drug are excreted in feces as the unchanged form, whereas only 7% or less of the dose is found in urine as the unchanged form of the drug and its metabolites.

Indications. For the treatment of ascariasis (roundworm infection) and enterobiasis (pinworm infection).

Warnings. *Usage in Pregnancy:* Reproduction studies have been performed in animals and there was no evidence of propensity for harm to the fetus. The relevance to the human is not known.

There is no experience in pregnant women who have received this drug.

The drug has not been extensively studied in children under two years; therefore, in the treatment of children under the age of two years, the relative benefit/risk should be considered.

Precautions: Minor transient elevations of SGOT have occurred in a small percentage of patients. Therefore, this drug should be used with caution in patients with preexisting liver dysfunction.

Adverse Reactions. The most frequently encountered adverse reactions are related to the gastrointestinal system.

Gastrointestinal and hepatic reactions: anorexia, nausea, vomiting, gastralgia, abdominal cramps, diarrhea and tenesmus, transient elevation of SGOT.

CNS reactions: headache, dizziness, drowsiness, and insomnia. Skin reactions: rashes.

Dosage and Administration. *Children and Adults:* Antiminth Oral Suspension (50 mg of pyrantel base/ml) should be administered in a single dose of 11 mg of pyrantel base per kg of body weight (or 5 mg/lb.); maximum total dose 1 gram. This corresponds to a simplified dosage regimen of 1 ml of Antiminth per 10 lb of body weight. (One teaspoonful=5 ml.)

Antiminth (pyrantel pamoate) Oral Suspension may be administered without regard to ingestion of food or time of day, and purging is not necessary prior to, during, or after therapy. It may be taken with milk or fruit juices.

How Supplied. Antiminth Oral Suspension is available as a pleasant tasting caramel flavored suspension which contains the equivalent of 50 mg pyrantel base per ml, supplied in 60 ml bottles and Unitcups™ of 5 ml in packages of 12.

More detailed professional information available on request.

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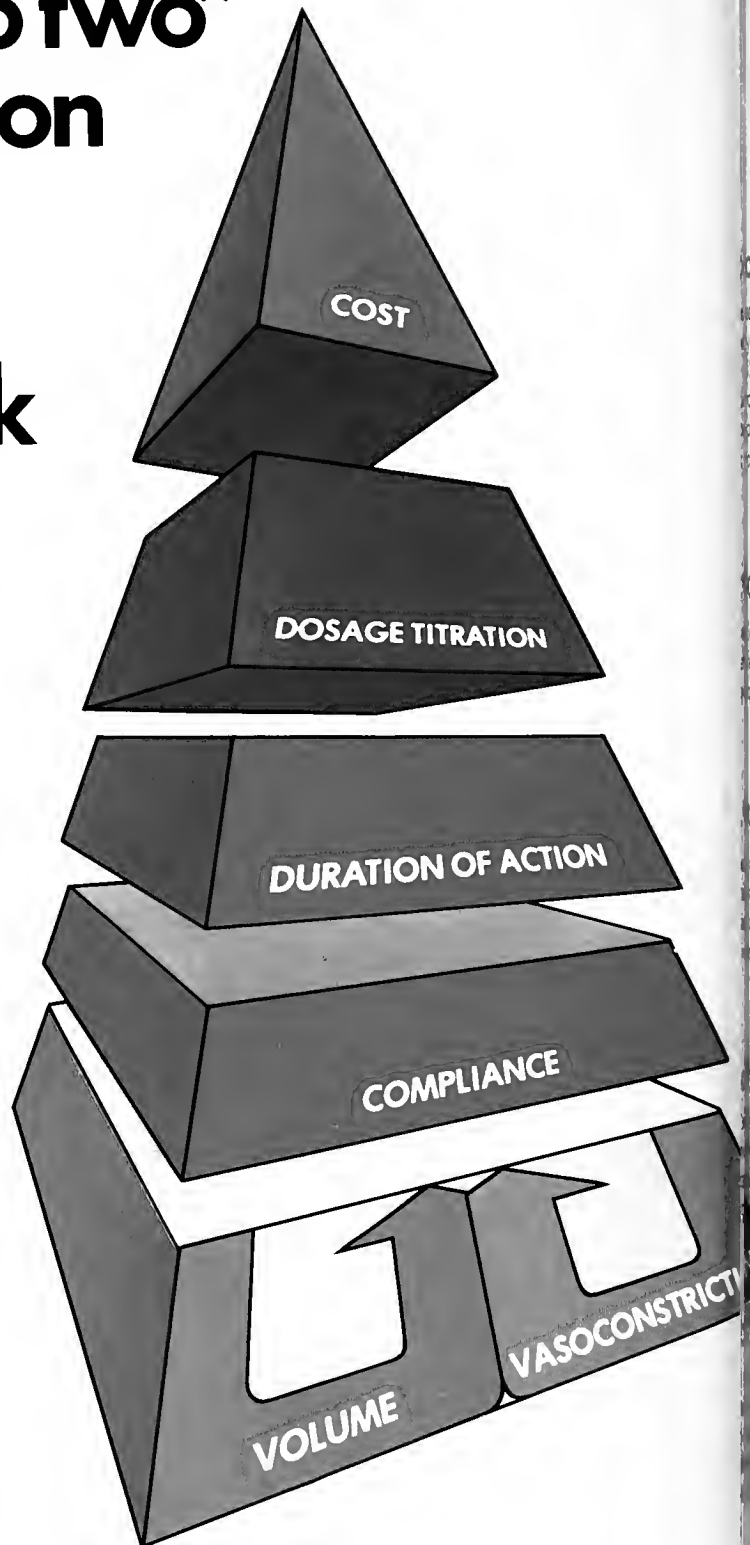


a drug of choice in
pinworm infections

Please see brief summary of prescribing information on facing page.

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therapy
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every block**



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Dosage titration

Salutensin contains the recommended effective doses of both its components, requiring minimal titration.

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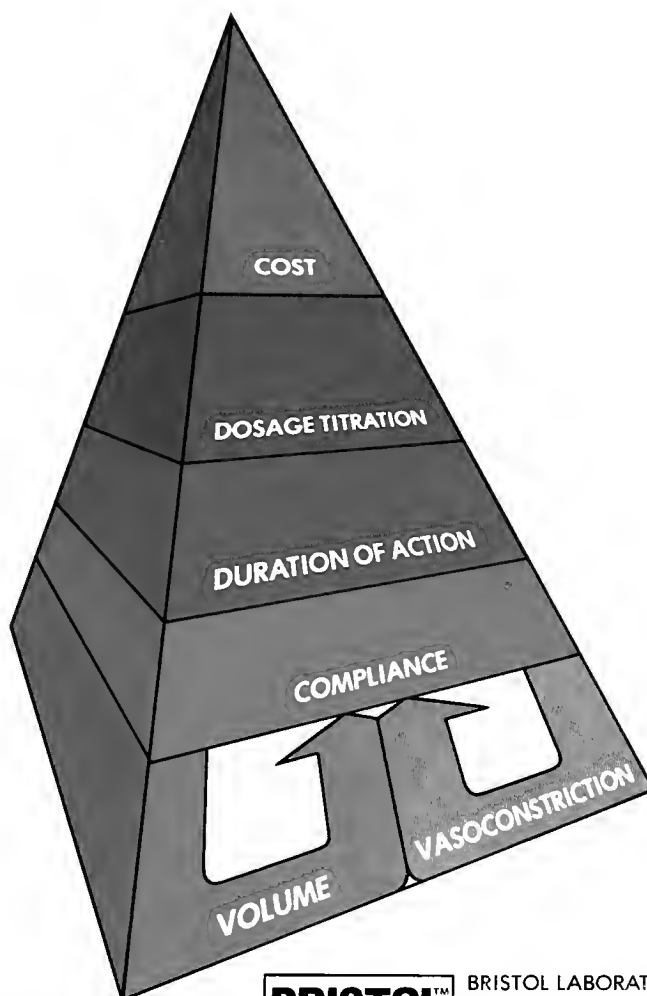
Salutensin contains Saluron (hydroflumethiazide), an intermediate-acting thiazide diuretic, which works over an 18-24 hour period, ideal for once-daily therapy.

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References: 1. Finnerty, F.A. et al.: An Evaluation of the 2 Regimens in Hypertension, data on file, Bristol Laboratories, 1977. 2. Red Book 1977.

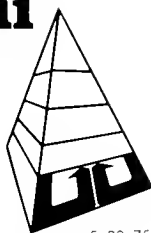
For a summary of prescribing information, please see following page.

Saluron®
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Salutensin-Demi™
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structured for the
long run in "step two"
hypertension



5, 20, 75

Saluron® (hydroflumethiazide)

For complete information consult Official Package Circular.

CONTRAINDICATIONS: Patients with anuria, oliguria, or hypersensitivity to this or other sulfonamide derived drugs.

WARNINGS: Saluron should be used with caution in severe renal disease. In patients with renal disease, thiazides may precipitate azotemia. Cumulative effects of the drug may develop in patients with impaired renal function.

Thiazides should be used with caution in patients with impaired hepatic function or progressive liver disease, since minor alterations of fluid and electrolyte balance may precipitate hepatic coma. Thiazides may be additive or potentiative of the action of other antihypertensive drugs. Potentiation occurs with ganglionic or peripheral adrenergic blocking drugs. Sensitivity reactions may occur in patients with a history of allergy or bronchial asthma.

The possibility of exacerbation or activation of systemic lupus erythematosus has been reported.

Usage in pregnancy: Usage of thiazides in women of childbearing age requires that the potential benefits of the drug be weighed against its possible hazards to the fetus. These hazards include fetal or neonatal jaundice, thrombocytopenia, and possibly other adverse reactions which have occurred in the adult.

Nursing mothers: Thiazides cross the placental barrier and appear in cord blood and breast milk.

PRECAUTIONS: Periodic determination of serum electrolytes to detect possible electrolyte imbalance should be performed at appropriate intervals.

All patients receiving thiazide therapy should be observed for clinical signs of fluid or electrolyte imbalance, namely, hyponatremia, hypochloremic alkalosis, and hypokalemia. Serum and urine electrolyte determinations are particularly important when the patient is vomiting excessively or receiving parenteral fluids. Medication such as digitalis may also influence serum electrolytes. Warning signs, irrespective of cause, are: Dryness of mouth, thirst, weakness, lethargy, drowsiness, restlessness, muscle pains or cramps, muscular fatigue, hypotension, oliguria, tachycardia, and gastrointestinal disturbances such as nausea and vomiting.

Hypokalemia may develop with thiazides as with any other potent diuretic, especially with brisk diuresis, when severe cirrhosis is present, or during concomitant use of corticosteroids or ACTH.

Interference with adequate oral electrolyte intake will also contribute to hypokalemia. Digitalis therapy may exaggerate metabolic effects of hypokalemia especially with reference to myocardial activity.

Any chloride deficit is generally mild and usually does not require specific treatment except, under extraordinary circumstances (as in liver disease or renal disease). Dilutional hyponatremia may occur in edematous patients in hot weather; appropriate therapy is water restriction, rather than administration of salt except in rare instances when the hyponatremia is life threatening. In actual salt depletion, appropriate replacement is the therapy of choice.

Hyperuricemia may occur or frank gout may be precipitated in certain patients receiving thiazide therapy.

Insulin requirements in diabetic patients may be increased, decreased or unchanged. Latent diabetes mellitus may become manifested during thiazide administration.

Thiazide drugs may increase the responsiveness to tubocurarine.

The antihypertensive effects of the drug may be enhanced in the postsympathectomy patient.

Thiazides may decrease arterial responsiveness to norepinephrine. This diminution is not sufficient to preclude effectiveness of the pressor agent for therapeutic use.

If progressive renal impairment becomes evident, as indicated by a rising nonprotein nitrogen or blood urea nitrogen, a careful reappraisal of therapy is necessary with consideration given to withholding or discontinuing diuretic therapy.

Thiazides may decrease serum PBI levels without signs of thyroid disturbance.

ADVERSE REACTIONS:

A. Gastrointestinal system reactions: Anorexia, gastric irritation, nausea,

vomiting, cramping, diarrhea, constipation, jaundice (intrahepatic cholestatic jaundice), pancreatitis.

B. Central nervous system reactions: Dizziness, vertigo, paresthesias, headache, xanthopsia.

C. Hematologic reactions: Leukopenia, agranulocytosis, thrombocytopenia, aplastic anemia.

D. Dermatologic-Hypersensitivity reactions: Purpura, photosensitivity, rash, urticaria, necrotizing angitis (vasculitis) (cutaneous vasculitis).

E. Cardiovascular reaction: Orthostatic hypotension may occur and may be aggravated by alcohol, barbiturates, or narcotics.

F. Other: Hyperglycemia, glycosuria, hyperuricemia, muscle spasm, weakness, restlessness.

Whenever adverse reactions are moderate or severe, thiazide dosage should be reduced or therapy withdrawn.

USUAL DOSE: The average adult diuretic dose is 25 to 200 mg. per day.

The average adult antihypertensive dose is 50 to 100 mg. per day. Therapy should be individualized according to patient response. This therapy should be titrated to gain maximal therapeutic response as well as the minimal dose possible to maintain that therapeutic response.

HOW SUPPLIED: Saluron (hydroflumethiazide 50 mg.): Bottles of 100.

Salutensin® • Salutensin-Demi™

(12) 10/27

(hydroflumethiazide, reserpine antihypertensive formulation)

For complete information consult Official Package Circular.

WARNING

This fixed combination drug is not indicated for initial therapy of hypertension. Hypertension requires therapy titrated to the individual patient. If the fixed combination represents the dosage so determined, its use may be more convenient in patient management. The treatment of hypertension is not static, but must be reevaluated as conditions in each patient warrant.

CONTRAINDICATIONS: Anuria, oliguria, active peptic ulceration, ulcerative colitis, severe depression or hypersensitivity to its components contraindicates the use of Salutensin.

WARNINGS: Small-bowel lesions (obstruction, hemorrhage, perforation and death) have occurred during therapy with enteric-coated formulations containing potassium, with or without thiazides. Such potassium formulations should be used with Salutensin only when indicated and should be discontinued immediately if abdominal pain, distention, nausea, vomiting or gastrointestinal bleeding occurs. Use cautiously, and only when deemed essential, in fertile, pregnant or lactating patients.

Use in pregnancy: Thiazides cross the placenta and can cause fetal or neonatal hyperbilirubinemia, thrombocytopenia, altered carbohydrate metabolism and possibly electrolyte disturbances. Fatal reactions may occur with reserpine during electroshock therapy; discontinue Salutensin 2 weeks before such therapy. Increased respiratory secretions, nasal congestion, cyanosis and anorexia may occur in infants born to reserpine-treated mothers.

PRECAUTIONS: Azotemia, hypochloremia, hyponatremia, hypochloremic alkalosis and hypokalemia (especially with hepatic cirrhosis and corticosteroid therapy) may occur, particularly with pre-existing vomiting or diarrhea. Potassium loss may cause digitalis intoxication. Potassium loss responds to potassium-rich foods, potassium chloride or, if necessary, discontinuation of therapy. Serum ammonia elevation may precipitate coma in precomatose hepatic cirrhotics. Discontinue therapy 2 weeks before surgery or if myocardial irritability, progressive azotemia or severe depression occur. Exercise caution in patients with chronic uremia, angina pectoris, coronary thrombosis or extensive cerebral vascular disease or bronchial asthma and in those with a history of peptic ulceration or bronchial asthma, in postsympathectomy patients; in patients on quinidine; and in patients with gallstones, in whom biliary colic may occur. Patients who have diabetes mellitus or who are suspected of being prediabetic should be kept under close observation if treated with this agent.

ADVERSE REACTIONS: Hydroflumethiazide: Skin rashes (including exfoliative dermatitis), skin photosensitivity, urticaria, necrotizing angitis, xanthopsia, granulocytopenia, aplastic anemia, orthostatic hypotension (potentiated with alcohol, barbiturates or narcotics), allergic glomerulonephritis, acute pancreatitis, liver involvement (intrahepatic cholestatic jaundice), purpura plus or minus thrombocytopenia, hyperuricemia, hyperglycemia, glycosuria, malaise, weakness, dizziness, fatigue, paresthesias, muscle cramps, skin rash, epigastric distress, vomiting, diarrhea and constipation. **Reserpine:** Depression, peptic ulceration, diarrhea, Parkinsonism, nasal stuffiness, dryness of the mouth, weight gain, impotence or decreased libido, conjunctival injection, dull sensor deafness, glaucoma, uveitis, optic atrophy, and, with overdosage, agitation, insomnia and nightmares.

USUAL DOSE: 1 tablet b.i.d.

HOW SUPPLIED: Salutensin (hydroflumethiazide 50 mg., reserpine 0.125 mg.): Bottles of 100 and 1000.

Salutensin-Demi (hydroflumethiazide 25 mg., reserpine 0.125 mg.): Bottles of 100.

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MC

change of information through publications and meetings.

* * *

Two researchers in the School of Medicine have received grants from the National Institute of Allergy and Infectious Diseases for separate investigations into how viruses infect and cause disease in human cells.

Dr. Steven Bachenheimer, assistant professor of bacteriology and immunology, has received \$125,483 for a three-year study of how herpes simplex virus replicates with human cells, eventually killing them. The institute has awarded Dr. Gail Williams Wertz, assistant professor in the same department, two grants totaling \$207,572 to study similar aspects of the vesicular stomatitis virus.

* * *

Dr. David G. Kaufman, a pathologist in the School of Medicine, has received a five-year, \$30,000 Research Career Development Award from the National Cancer Institute. The award will enable Kaufman to study the relationship between the growth of cells and the susceptibility of cells to chemical carcinogens.

* * *

Dr. Rosemary S. Hunter, assistant professor in the Departments of Psychiatry and Pediatrics, has been

appointed assistant dean for student affairs by Dr. William E. Easterling, acting dean.

Hunter will be especially involved with defining and meeting the needs of the growing number of women students in medical school.

A child psychiatrist on the faculty of the medical school since 1975, Hunter graduated with honors from the University of Washington School of Medicine in Seattle. She first came to UNC-CH for post-graduate training in psychiatry and in 1973 was named a fellow in child psychiatry. In 1975 she joined the faculty as an instructor. She was named assistant professor the following year.

Among her interests are families of premature babies and their special problems. Hunter was also a participant in the statewide program for maltreated children and is still active in that area.

News Notes from the—

DUKE UNIVERSITY MEDICAL CENTER

The National Heart, Lung and Blood Institute has awarded a three-year, \$210,000 grant to scientists at Duke who are trying to find out why impatient, aggressive and success-oriented men are far more likely



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"sleeping on a Sealy is like sleeping on a cloud"

to develop heart disease than their easier going co-workers.

Dr. Redford B. Williams, professor of psychiatry, said the long-range object of the research is to identify behavioral responses to everyday stresses that lead to coronary heart disease (CHD) and heart attacks.

He and his colleagues also plan to examine the underlying physical mechanisms that lead to CHD and possible forms of treatment.

Williams said that three components of the aggressive "Type A" personality have been identified — hostility, impatience and ambition.

"If we can show that one of these components of Type A behavior such as hostility is responsible for the increased disease, then we may be able to train the individuals to control their hostility or control it ourselves through medication," he said.

"Certainly we wouldn't want people to be less ambitious, nor would we want them to be less speedy when they have to get things done in a hurry," the physician added. "The trick is to be a good Type A, but we don't really know what that is yet."

* * *

Dr. Leo J. Potts, assistant professor of psychiatry and clinical director of Highland Hospital, a division of the Duke Medical Center, has accepted Fellowship in the Royal Australian and New Zealand College of Psychiatrists. This honor will be bestowed in May.

* * *

A leading Soviet medical scientist who defected to the United States from Egypt has begun working at the medical center.

Dr. Igor Konstantinovich Egorov, considered a foremost authority on immunogenetics, and his wife Olga slipped away from Soviet security guards at a Cairo hotel early one morning in mid-December.

The Egorovs, who had been on a vacation cruise of the eastern Mediterranean, walked into the American embassy and asked for political asylum.

Before his defection, the scientist was head of a laboratory at the U.S.S.R. Academy of Sciences' Institute of General Genetics where he studied the mechanisms by which the body rejects transplanted foreign tissues.

At Duke, he has been hired initially as a research associate, according to Dr. D. Bernard Amos, professor and chief of the Division of Immunology.

"We hope to be able to have him join the faculty, perhaps first as a visiting professor, and then as a medical research professor," Amos said.

* * *

Dr. Oliver P. Charlton, assistant professor of radiology, won an honorable mention for his exhibit, "The Evaluation of Panoramic Zonography in Fractures of the Facial Skeleton," which was presented at the Radiological Society of North America meeting in Chicago.

A Duke scientist who is studying how anesthesia works on nerves has received a \$242,000 grant from the National Institute of General Medical Sciences.

Dr. Brij N. Shrivastav, assistant medical research professor of pharmacology and anesthesiology, said the three-year grant will support his work on the mechanisms by which commonly used general anesthetics affect nerve fibers.

"Once these mechanisms are known, it may become possible to synthesize more appropriate anesthetics to suit particular situations in surgery," Shrivastav said.

His experiments will be performed on giant axons of the squid.

* * *

The Duke Hospital Auxiliary donated \$56,686 and 18,091 volunteer hours to the medical center in 1978. The volunteer time was contributed by 130 active members.

Auxiliary contributions, financed by gift shop and snack bar sales, included \$17,530 for scholarships in medicine, nursing and health administration; \$7,000 for use by hospital chaplains; \$1,250 for use by the Speech and Hearing Center; \$1,780 for various children's services and more than \$28,000 for purchase of special equipment and services for a variety of medical center divisions.

* * *

Dr. W. Glenn Young Jr. has been chosen president-elect of the Southern Thoracic Surgical Association.

Young earned B.S. and M.D. degrees at Duke in 1944 and 1947, respectively. He served his internship and residency here and spent two years with the U.S. Navy Medical Corps.

He was appointed to the faculty in 1955 as an associate in surgery. He was promoted to assistant professor in 1957, associate professor in 1959 and full professor in 1963.

* * *

A physician at Duke has received a \$35,000 one year, renewable grant to support studies of epilepsy and seizures in children.

The Esther A. and Joseph Klingenstein Fund of New York City awarded the grant to Dr. Darrell Lewis Jr., assistant professor of pediatrics.

Lewis' project is "Calcium and Diphenylhydantoin: Modulation of Neuronal Excitability."

* * *

A Salisbury businessman and his wife have donated \$100,000 to the medical center to help finance studies of a disease which sometimes victimizes persons who literally starve themselves to death while trying to lose weight.

Thomas W. Kern, president of Kern Rubber Co. and Sarah Kern are providing the funds for a three-

near effort to develop a more effective treatment for anorexia nervosa, commonly called "the dieter's disease."

The research will be conducted by Dr. H. Keith H.

Brodie, chairman of the Department of Psychiatry, Dr. Everett H. Ellinwood, professor of psychiatry, and Dr. Kenneth Rockwell, assistant professor in the department.



Field, Rickard, and Hutt have reported the occurrence of a sex-linked hemorrhagic disease in male dogs similar to hemophilia in man. The chief symptoms were due to subcutaneous hematomas and hemaarthroses. Deformities frequently occurred. Most of the pups affected with the disease died during the first 12 weeks of life. Of 17 affected males described, none were reared to maturity. The female stock, heterozygous for the disease, was turned over to this laboratory so that a controlled breeding program could be instituted, and a more extensive investigation of the clotting defect could be made. Our studies of the affected male progeny indicate that the clotting defect is identical with that found in human hemophilia. Repeated transfusions with whole blood or plasma alleviate the hemorrhagic phenomena, and permit growth of affected dogs to maturity practically free of deformities. — John B. Graham, Joseph A. Buckwalter, L. J. Hartley and Kenneth M. Brinkhous. *Canine Hemophilia J. Exper Med* 90:97-111, 1949. (Reproduced with permission.)



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Month In Washington

The Carter Administration appears to be leaning toward a broad national health insurance proposal that features establishment of a federal insurance program — healthcare — alongside existing private plans.

While commitment is not final, a "National Health Plan" (NHP) has been submitted by the Health, Education and Welfare Department to the White House for approval.

President Carter has many questions and reservations about the approach and he has not made up his mind on crucial issues such as whether Congress should be asked to approve the plan as a complete package.

The NHP is a more sweeping national health insurance plan (NHI) than expected. There had been an inclination at HEW for a long time to adopt much more modest variations of NHI in response to Carter's frugal government campaign. The program finally settled upon at HEW reflects a significant bow to the pressures of organized labor and Senator Edward Kennedy (D-Mass.) for a comprehensive NHI.

The Administration won't be submitting its final legislative proposal to Congress for several months. There is a possibility the plan might be worked over and changed drastically from its present form. Even HEW in its report to Carter emphasized the tentative nature of the plan's provisions.

Following is a description of the NHP proposal in which much of the language is that of the HEW Department.

The university, mandatory national health insurance program would provide the same standard of insurance protection for all Americans through either the public or private sector. The tentative plan would maintain a pluralistic system of health services financing, yet assure that all Americans would have insurance coverage.

The plan would establish a federal insurance program — healthcare — under which people would be covered by either NHP or by private insurance plans meeting federal standards. Employers would be required to purchase coverage for employees from NHP or private plans would be covered for the same standard benefit package and treated equally by health service providers, because all insurance plans would reimburse providers at the same rates. Comparability between public and private plans in benefits and rates of payment to providers would be achieved through standards governing benefits offered by private plans and their rates of payment to hospitals, physicians and

other health service providers. Providers would have no reason to distinguish between persons enrolled in different insurance plans because all financial transactions would occur between providers and insurance plans, rather than providers and patients; and all plans would pay the same amount for a given service.

The benefit package for all plans would include hospital, physician, outpatient, laboratory and x-ray services — a complete prevention package as well as limited coverage of mental health, alcoholism and drug abuse services and outpatient drugs.

Under one set of provisions, the HEW Secretary working with a 'provider rate negotiation board' would annually set payment rates for all services covered under the plans at levels calculated to meet a spending target established by the Congress. Hospitals would be reimbursed prospectively.

Under an alternative set of provisions, fee schedules would be established for physicians and expense limits for hospitals. This approach would be more evolutionary and fee schedules and expense limits could be set at the state or local level initially.

The "National Health Plan" or NHP system would be financed through a combination of premiums, current medicare payroll tax payments and federal general revenues.

A federal reinsurance fund would serve to equalize the cost of exceptionally high expenses among private insurance plans and NHP. The reinsurance fund would assume responsibility for any individual expenditure in excess of \$50,000. Reinsurance would be financed through federal general revenues.

* * *

A health advisory group of the Republican National Committee has rejected any program of federally financed, federally-administered national health insurance, calling instead for "appropriate steps" to provide for the uncovered poor and those threatened by catastrophic expenses.

The report was filed by the Health Subcommittee of the GOP Committee's Advisory Council on Human Concerns. Heading the panel was former Pennsylvania Senator Hugh Scott.

The efforts of the Carter Administration and the Kennedy-labor wing to impose a sweeping NHI program were assailed in the Republican Committee's report, "A Statement on Health Policy."

Some Democratic members of Congress have proposed a \$300 billion NHI, noted the document. "At

...tion when a workable national health policy is essential. All we hear from the President is vicious attacks on medical professionals and a set of 10 principles for national health insurance which considers the details of cost and coverage without addressing the question of why a totally federalized national health insurance program is needed at all," asserted the GOP panel.

Recommended was "a system which would build on and strengthen the private insurance protections which now cover more than 80% of the population rather than tearing that down."

* * *

President Carter has told Congress that it must act this year on the Administration's hospital cost containment proposal.

In his State of the Union Speech, Carter said, "There will be no clearer test of the commitment of the Congress to the anti-inflation fight than the legislation I will submit again this year to hold down inflation in hospital care."

The Administration has decided to abandon its original goal of a mandatory federal ceiling on hospital expenditure increases in favor of a fallback position in which controls would be imposed only if the voluntary effort to restrain increases fails to keep expenditures within certain limits.

The plan faces a tough fight in Congress where the general mood is in opposition to controls, even standby controls. The Senate approved a watered-down version of the Administration plan in the last few days of the previous Congress, but the House refused to act.


HEW Secretary Califano gave the picture a new twist with a request that hospitals next year limit their expenditure increase to 9.7%.

The HEW proposed guideline was attacked immediately as "totally unrealistic and based on assumptions which we believe are unreasonable," by the Federation of American Hospitals.

The American Hospital Association quickly joined the attack with the statement that a 9.7% cap would "absolutely endanger our ability to take care of patients." "Now that we (Voluntary Effort Program) have mounted an obviously successful program — it is being ignored with the unfortunate introduction of a new mechanism," AHA president Alexander McMahon said.

The National Steering Committee of the Voluntary Effort (VE) passed a resolution reaffirming the VE's goals and program in protest to the HEW goals of 9.7%. "We view the VE as a more effective mechanism for reducing inflation in the health care industry,

After specializing in the treatment of alcoholism and drug addiction for 17 years, we found . . .



**if there
are problems
and there
is drinking...
drinking
may be the
only problem!**

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for serving the nation's health care needs, and for helping achieve the overall objectives of the President's anti-inflation program for the economy," the Committee said.

The Steering Committee generally supported President Carter's voluntary anti-inflation program, but it rejected the HEW hospital guidelines "as being inconsistent with both the President's program and the Voluntary Effort. The HEW guidelines pose a threat to the continued development of needed hospital services. They are unrealistic and unnecessary."

Califano's bandying about of figures sharply disputed by hospitals underscore the hospitals' chief fear about a standby program — that the hostile Administration would jigger statistics to trigger federal controls under a standby plan.

Officials of the voluntary effort made no bones about their displeasure with Califano's incessant assaults on the private sector's efforts to restrain increases voluntarily. "The fact is that Califano just can't stand the success of voluntarism," said Dr. James Sammons, AMA executive vice-president.

Califano last year belittled the VE's program and contended it could not accomplish its mission of re-

ducing the rate of hospital inflation by two percentage points. He unsuccessfully urged Congress to approve the Administration's highly controversial hospital cost containment plan recommending a mandatory "cap" of about 10%.

Dr. Sammons called the Califano 9.7% target figure "... a hip shot, a seat-of-the-pants figure" that would lead to an effective rationing of care. "... the American people would be against it and they would tell Congress. Yes, we would beat them (the Administration) again, if such a proposal were introduced," Dr. Sammons said.

Robert Hunter, M.D., AMA chairman of the board of trustees and VE Steering Committee member, noted that in response to calls for restraint from the AMA, the 1978 rate of increase in physician fees was less than the consumer price index for all items. "This represents a voluntary and responsible reaction by the profession demonstrating citizens' responsibility," said Dr. Hunter.

VE goals are aimed at narrowing the gap between the rate of increase in hospital expenditures and the rate of increase in the gross national product. The primary goal is to reduce the rate of hospital e-

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expenditure increases by four percentage points during 1978 and 1979, from 15.6% (1977) to 11.6% this year.

"We reaffirm that goal and have said publicly on a number of occasions that hospitals expect to meet that goal in spite of the continued growth of inflation in the general economy," said the Steering Committee.

The figures show that for the first ten months of 1978, hospital expenditures increased at a rate of 12.9%, down from 16.0% for the first ten months of 1977.

This decrease represents a savings of more than \$13 billion for the nation and demonstrates that the voluntary effort can work effectively without any compromise in the quality or availability of health care services," according to the Committee.

* * *

Here's how physicians' fees compared with other price changes in 1978.

The annualized rate of growth of physicians' service prices for 1978 as a whole (8%) was less rapid than either the all items (9.1%) or the all services (9.7%) prices of the consumer price index.

For 1978, the 8% annualized rate of growth of physicians' service prices was lower than the rate of

growth for the medical care index (8.2%), or the medical care services index (8.6%). The physicians' service rate (8%) exceeded the rate of increase for prescription drugs (7.3%), dentists' services (6.6%), and medical care commodities (6.8%).

Published CPI data are available for only the first nine months of calendar year 1978. However, data are complete for the federal fiscal year, which runs from October through September. The figures presented here are for the federal fiscal year, 1978.

For fiscal year (FY) 1978, physicians' fees rose at a lower rate than the "all items" index, or the "all services" index (7.7% versus 8% and 8.7%, respectively.)

For FY 1978, physicians' fees rose at about the same rate as the medical care index (7.7% for physicians' fees and 7.6% for medical care). Also, physicians' fees rose more rapidly than dentists' fees (6.1%) and prescription drugs (7.3%) and not as rapidly as hospital semi-private room charges (9.9%).

The annual rate of growth of physicians' fees fell in FY 1978 to 7.7% from the FY 1977 rate of 8.8%. This represents a 12.5% decrease in the rate of growth.

Physicians' fees rose at a greater rate than prices in

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the economy as a whole in FY 1977 and at a lower rate than prices in the economy as a whole in FY 1978.

* * *

The AMA has expressed concerns about reductions in federal funding for human services programs, biomedical research, and medical education in the President's proposed 1980 budget.

"The AMA recognizes the desirability for the President, in his proposed Fiscal Year 1980 budget, to reduce federal expenditures. However, the Association is concerned over shifts in funding allocations for some health programs," said Whalen M. Strobhar, AMA senior vice president.

For example, the President has recommended \$5.5 million less for the Maternal and Child Health Care program in FY 1980 than exists in the current year's appropriation of \$380.5 million. "The President's recommendation is about \$40 million less than the amount the AMA had suggested to the Office of Management and Budget last fall," said Mr. Strobhar. "Key programs such as this one have already been badly eroded by inflation and must, at the very least, be maintained."

The Administration and Congress should give greater support to activities such as the Voluntary Effort to contain hospital costs, the efforts of Professional Standards Review Organizations (PSRO), and to efforts to eliminate fraud and waste in federal programs, according to the AMA statement.

"The AMA is also concerned that funding for programs in fundamental biomedical research and disease prevention will prove to be inadequate, and that the budget does not provide adequate support for the education of those who provide medical and health services," Strobhar said. "We will continue to analyze the budget, and will offer further views on specific programs as appropriate."

* * *

Reacting strongly to the President's budget message, the Association of American Medical Colleges (AAMC) warned that medical education may become confined to the wealthy if the Carter Administration succeeds in chopping federal aid.

John A. D. Cooper, M.D., AAMC president, said the Carter Administration budget would cut broad medical educational support (capitation) by 50% this year and eliminate it altogether next year. Federal student financial aid also would be sharply reduced.

Dr. Cooper made these remarks during testimony before the Senate Subcommittee on Health headed by Senator Edward Kennedy (D-Mass.) during one day of oversight hearings on President Carter's health budget request for fiscal year 1980.

"We cannot understand the basis for decisions made to restrain, phase out, or abruptly eliminate programs established by the Congress and implemented by the medical centers over the past three decades," Dr. Cooper said. He contended that the

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Tenuate Dospan®
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AVAILABLE ONLY ON PRESCRIPTION

Brief Summary

INDICATION: Tenuate and Tenuate Dospan are indicated in the management of exogenous obesity as a short-term adjunct (a few weeks) in a regimen of weight reduction based on caloric restriction. The limited usefulness of agents of this class should be measured against possible risk factors inherent in their use such as those described below.

CONTRAINDICATIONS: Advanced arteriosclerosis, hyperthyroidism, known hypersensitivity, or idiosyncrasy to the sympathomimetic amines, glaucoma. Agitated states. Patients with a history of drug abuse. During or within 14 days following the administration of monoamine oxidase inhibitors, (hypertensive crises may result).

WARNINGS: If tolerance develops, the recommended dose should not be exceeded in an attempt to increase the effect, rather, the drug should be discontinued. Tenuate may impair the ability of the patient to engage in potentially hazardous activities such as operating machinery or driving a motor vehicle, the patient should therefore be cautioned accordingly. **Drug Dependence:** Tenuate has some chemical and pharmacologic similarities to the amphetamines and other related stimulant drugs that have been extensively abused. There have been reports of subjects becoming psychologically dependent on diethylpropion. The possibility of abuse should be kept in mind when evaluating the desirability of including a drug as part of a weight reduction program. Abuse of amphetamines and related drugs may be associated with varying degrees of psychological dependence and social dysfunction which, in the case of certain drugs, may be severe. There are reports of patients who have increased the dosage to many times that recommended. Abrupt cessation following prolonged high dosage administration results in extreme fatigue and mental depression, changes are also noted on the sleep EEG. Manifestations of chronic intoxication with anorectic drugs include severe dermatoses, marked insomnia, irritability, hyperactivity, and personality changes. The most severe manifestation of chronic intoxications is psychosis, often clinically indistinguishable from schizophrenia. **Use in Pregnancy:** Although rat and human reproductive studies have not indicated adverse effects, the use of Tenuate by women who are pregnant or may become pregnant requires that the potential benefits be weighed against the potential risks. **Use in Children:** Tenuate is not recommended for use in children under 12 years of age.

PRECAUTIONS: Caution is to be exercised in prescribing Tenuate for patients with hypertension or with symptomatic cardiovascular disease, including arrhythmias. Tenuate should not be administered to patients with severe hypertension; insulin requirements in diabetes mellitus may be altered in association with the use of Tenuate and the concomitant dietary regimen. Tenuate may decrease the hypotensive effect of guanethidine. The least amount feasible should be prescribed or dispensed at one time in order to minimize the possibility of overdose. Reports suggest that Tenuate may increase convulsions in some epileptics. Therefore, epileptics receiving Tenuate should be carefully monitored. Titration of dose or discontinuance of Tenuate may be necessary.

ADVERSE REACTIONS: **Cardiovascular:** Palpitation, tachycardia, elevation of blood pressure, precordial pain, arrhythmia. One published report described T-wave changes in the ECG of a healthy young male after ingestion of diethylpropion hydrochloride. **Central Nervous System:** Overstimulation, nervousness, restlessness, dizziness, jitteriness, insomnia, anxiety, euphoria, depression, dysphoria, tremor, dyskinesia, mydriasis, drowsiness, malaise, headache, rarely psychotic episodes at recommended doses. In a few epileptics an increase in convulsive episodes has been reported. **Gastrointestinal:** Dryness of the mouth, unpleasant taste, nausea, vomiting, abdominal discomfort, diarrhea, constipation, other gastrointestinal disturbances. **Allergic:** Urticaria, rash, ecchymosis, erythema. **Endocrine:** Impotence, changes in libido, gynecomastia, menstrual upset. **Hematopoietic System:** Bone marrow depression, agranulocytosis, leukopenia. **Miscellaneous:** A variety of miscellaneous adverse reactions has been reported by physicians. These include complaints such as dyspnea, hair loss, muscle pain, dysuria, increased sweating, and polyuria.

DOSEAGE AND ADMINISTRATION: Tenuate (diethylpropion hydrochloride) One 25 mg. tablet three times daily, one hour before meals, and in mid-evening if desired to overcome night hunger. Tenuate Dospan (diethylpropion hydrochloride) controlled-release: One 75 mg. tablet daily, swallowed whole, in mid-morning. Tenuate is not recommended for use in children under 12 years of age.

OVERDOSEAGE: Manifestations of acute overdose include restlessness, tremor, hyperreflexia, rapid respiration, confusion, assaultiveness, hallucinations, panic states. Fatigue and depression usually follow the central stimulation. Cardiovascular effects include arrhythmias, hypertension or hypotension and circulatory collapse. Gastrointestinal symptoms include nausea, vomiting, diarrhea, and abdominal cramps. Overdose of pharmacologically similar compounds has resulted in fatal poisoning, usually terminating in convulsions and coma. Management of acute Tenuate intoxication is largely symptomatic and includes lavage and sedation with a barbiturate. Experience with hemodialysis or peritoneal dialysis is inadequate to permit recommendation in this regard. Intravenous phentolamine (Regitine®) has been suggested on pharmacologic grounds for possible acute, severe hypertension, if this complicates Tenuate overdose.

Product Information as of April, 1976

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Direct Medical Inquiries to

MERRELL-NATIONAL LABORATORIES

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References: 1. Citations available on request—Medical Research Department, MERRELL RESEARCH CENTER, MERRELL-NATIONAL LABORATORIES, Cincinnati, Ohio 45215. 2. Hoekenga, M.T., O'Dillon, R.H., and Leyland, H.M. A Comprehensive Review of Diethylpropion Hydrochloride. International Symposium on Central Mechanisms of Anorectic Drugs, Florence, Italy, Jan. 20-21, 1977.

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Overweight patients in certain diagnostic categories often require strict obesity control. Diethylpropion hydrochloride has been reported useful in obese patients with hypertension, symptomatic cardiovascular disease, or diabetes. While it is not suggested that Tenuate in any way reduces these complications in the overweight, it may have a useful place as a short-term adjunct in a prescribed dietary regimen. (Tenuate should not be administered to patients with severe hypertension; see additional Warnings and Precautions on the opposite page.)

In uncomplicated obesity.

Many patients, on the other hand, present with excess fat but no disease. While this condition is often termed uncomplicated obesity, complications of both a social and a psychologic nature may be distressingly real for the patients. In these cases, a short-term regimen of Tenuate can help reinforce your dietary counsel during the important early weeks of an indicated weight loss program.

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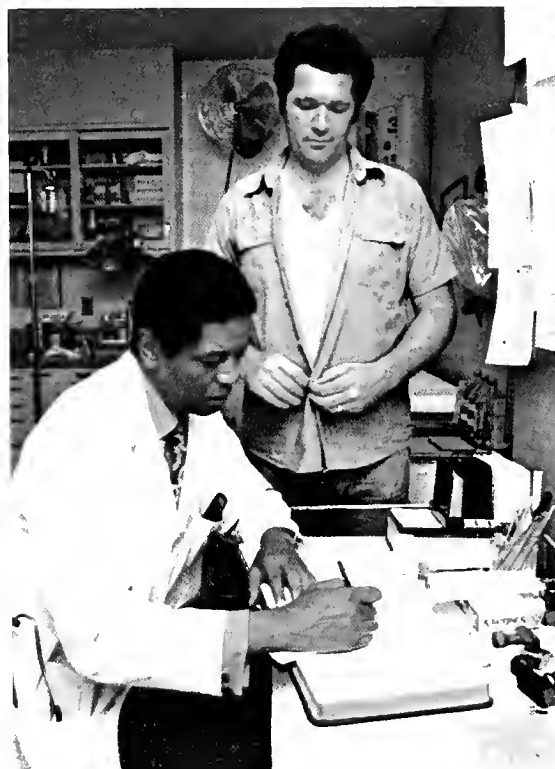
The anorexic effectiveness of diethylpropion hydrochloride is well documented. No less than 16 separate double-blind, placebo-controlled studies attest to its usefulness in daily practice.¹ And the unique chemistry of Tenuate provides "...anorexic potency with minimal overt central nervous system or cardiovascular stimulation."² Compared with the amphetamines, diethylpropion has minimal potential for abuse.

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For prescribing information see opposite page



The evidence of experience

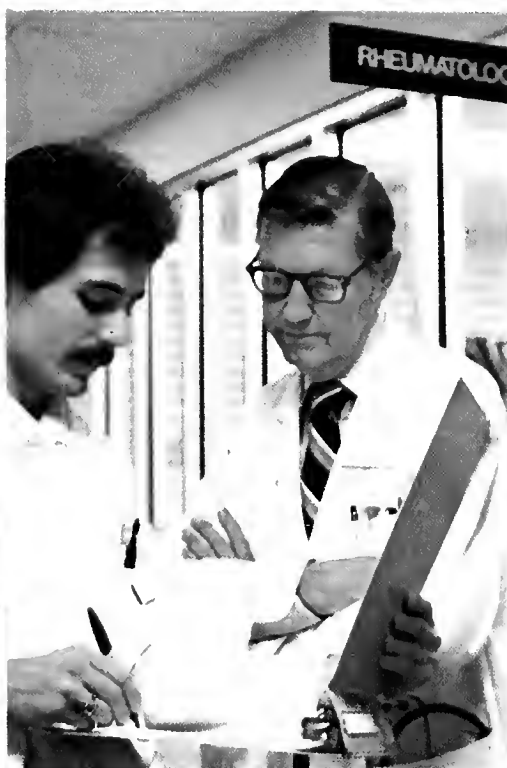
Since October 1974 when Motrin® (ibuprofen) was introduced in the United States, it has been used by more than 6,000,000 patients with rheumatoid arthritis* or osteoarthritis. Rarely has an ethical pharmaceutical product been prescribed for so many patients in so short a time. In addition, more than 450 studies presenting new data related to Motrin have been published.

The 6,000,000 patients already treated with Motrin is an objective measure of physicians' confidence in the ability of Motrin to relieve the pain and inflammation associated with rheumatoid arthritis and osteoarthritis.

So it is not surprising that in this short period Motrin has become the most frequently prescribed alternative to aspirin. Motrin relieves joint pain and inflammation as effectively as indomethacin or aspirin, but causes significantly fewer CNS and milder GI reactions.

However, gastrointestinal bleeding, sometimes severe, has been associated with Motrin, aspirin, indomethacin, and other nonsteroidal antiarthritic agents.

*The safety and effectiveness of Motrin have not been established in patients with Functional Class IV rheumatoid arthritis (incapacitated, largely or wholly bedridden, or confined to wheelchair; little or no self-care).



Motrin⁴⁰⁰ TABLETS

ibuprofen, Upjohn

The confidence that comes from experience—
one more reason to prescribe Motrin.

Please turn page for a brief summary of prescribing information.

Upjohn

The Upjohn Company, Kalamazoo, Michigan 49001

The confidence that comes from experience—
one more reason to prescribe

Motrin 400mg TABLETS

ibuprofen, Upjohn

Indications and Usage: Treatment of signs and symptoms of rheumatoid arthritis and osteoarthritis during acute flares and in long-term management. Safety and efficacy have not been established in Functional Class IV rheumatoid arthritis.

Contraindications: Individuals hypersensitive to it, or with the syndrome of nasal polyps, angioedema and bronchospastic reactivity to aspirin or other nonsteroidal anti-inflammatory agents (see WARNINGS).

Warnings: Anaphylactoid reactions have occurred in patients with aspirin hypersensitivity (see CONTRAINDICATIONS).

Peptic ulceration and gastrointestinal bleeding, sometimes severe, have been reported. Ulceration, perforation, and bleeding may end fatally. An association has not been established. Motrin should be given under close supervision to patients with a history of upper gastrointestinal tract disease, only after consulting ADVERSE REACTIONS.

In patients with active peptic ulcer and active rheumatoid arthritis, nonulcerogenic drugs, such as gold, should be tried. If Motrin must be given, the patient should be under close supervision for signs of ulcer perforation or gastrointestinal bleeding.

Precautions: Blurred and/or diminished vision, scotomata, and/or changes in color vision have been reported. If these develop, discontinue Motrin and the patient should have an ophthalmologic examination, including central visual fields.

Fluid retention and edema have been associated with Motrin, use with caution in patients with a history of cardiac decompensation.

Motrin can inhibit platelet aggregation and prolong bleeding time. Use with caution in persons with intrinsic coagulation defects and those on anticoagulant therapy.

Patients should report signs or symptoms of gastrointestinal ulceration or bleeding, blurred vision or other eye symptoms, skin rash, weight gain, or edema.

To avoid exacerbation of disease or adrenal insufficiency, patients on prolonged corticosteroid therapy should have therapy tapered slowly when Motrin is added.

Drug interactions: Aspirin used concomitantly may decrease Motrin blood levels. Coumadin: Bleeding has been reported in patients taking Motrin and coumadin.

Pregnancy and nursing mothers: Motrin should not be taken during pregnancy or by nursing mothers.

Adverse Reactions

Incidence greater than 1%

Gastrointestinal: The most frequent type of adverse reaction occurring with Motrin (ibuprofen) is gastrointestinal (4% to 16%). This includes nausea, epigastric pain, heartburn, diarrhea, abdominal distress, nausea and vomiting, indigestion, constipation, abdominal cramps or pain, fullness of the GI tract (bloating and flatulence). **Central Nervous System:** Dizziness, headache, nervousness. **Dermatologic:** Rash (including maculopapular type), pruritus. **Special Senses:** Tinnitus. **Metabolic:** Decreased appetite, edema, fluid retention. Fluid retention generally responds promptly to drug discontinuation (see PRECAUTIONS).

Incidence: Unmarked 1% to 3%, 3% to 9%

Incidence less than 1 in 100

Gastrointestinal: Upper GI ulcer with bleeding and/or perforation, hemorrhage, melena. **Central Nervous System:** Depression, insomnia. **Dermatologic:** Vesiculobullous eruptions, urticaria, erythema multiforme. **Cardiovascular:** Congestive heart failure in patients with marginal cardiac function, elevated blood pressure. **Special Senses:** Amblyopia (see PRECAUTIONS). **Hematologic:** Leukopenia, decreased hemoglobin and hematocrit.

Causal relationship unknown

Gastrointestinal: Hepatitis, jaundice, abnormal liver function. **Central Nervous System:** Paresthesias, hallucinations, dream abnormalities. **Dermatologic:** Alopecia, Stevens-Johnson syndrome. **Special Senses:** Conjunctivitis, diplopia, optic neuritis. **Hematologic:** Hemolytic anemia, thrombocytopenia, granulocytopenia, bleeding episodes. **Allergic:** Fever, serum sickness, lupus erythematosus syndrome. **Endocrine:** Gynecomastia, hypoglycemia. **Cardiovascular:** Arrhythmias. **Renal:** Decreased creatinine clearance, polyuria, azotemia.

Overdosage: In cases of acute overdosage, the stomach should be emptied. The drug is acidic and excreted in the urine, so alkaline diuresis may be beneficial.

Dosage and Administration: Suggested dosage is 300 or 400 mg t.i.d. or q.i.d. Do not exceed 2400 mg per day.

How Supplied

Motrin Tablets, 300 mg (white)

Bottles of 60

Bottles of 500

NDC 0009-0733-01

NDC 0009-0733-02

Motrin Tablets, 400 mg (orange)

Bottles of 60

Bottles of 500

Unit-dose package of 100

Unit of Use bottles of 120

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NDC 0009-0750-02

NDC 0009-0750-06

NDC 0009-0750-26

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NIM-3

budget-slashing decisions were not made on the basis of the failure of the programs to achieve their objectives.

Dr. Cooper predicted that if capitation is cut by 50% in 1979 and eliminated in 1980 the nation's medical schools will lose \$129 million by 1980. He said the schools would face difficulties in securing increased

support from the states and would probably be forced to increase medical school tuitions in public schools by 100% and by 25% in private schools. This, he said, comes at a time when costs for medical students have already increased sharply, and would make it very difficult for minority and low income students to be able to afford a medical education.



In traumatized human spleens, focal 0.3-1 cm. areas of contrast material staining appear to represent the malpighian marginal sinus circulation. This circulation, when seen, is static or very slow moving. Extravasation of blood and contrast material also may be present in the marginal sinus network. The identification of diffuse or localized small areas of contrast material in the splenic angiogram of the traumatized patient suggests splenic contusion, intrasplenic hematoma, or both. The splenic angiographic appearance described may be compared to the globular appearance of stars, as depicted by Van Gogh in his painting "The Starry Night." — James H. Scatliff, Otis N. Fisher, W. Bonner Guilford, and William W. McLendon. The "Starry Night" Splenic Angiogram Contrast Material Opacification of the Malpighian Body Marginal Sinus Circulation in Spleen Trauma. *Am J. Roentgenol* 125:91-98, 1975. (Reproduced with permission; American Roentgen Ray Society.)

OFFICIAL CALL HOUSE OF DELEGATES

pursuant to the Bylaws, Chapter V, Section 1:

HOUSE OF DELEGATES Meetings scheduled

Notice to: Delegates, Alternate Delegates, Officials of the North Carolina Medical Society, and Presidents and Secretaries of county medical societies.

Sessions of the HOUSE OF DELEGATES will convene in the Cardinal Ballroom, Pinehurst Hotel, Pinehurst, North Carolina, at the following times:

Thursday, May 3, 1979—9:00 a.m.—Opening Session
Saturday, May 5, 1979—2:00 p.m.—Second Session

A member of the CREDENTIALS COMMITTEE will be present at the Desk in the Hotel West Lobby, Thursday, May 3, 1979, from 8:30 a.m. to 12:30 p.m. to certify Delegates. Delegates are urged to bring their Credential Cards for presentation at the Registration Desk. Delegate Badges must be worn to be seated in the HOUSE OF DELEGATES.

REFERENCE COMMITTEE HEARINGS

Reference Committee hearings are scheduled to begin Thursday, May 3, 1979, at 2:00 p.m.

D. E. WARD, JR., M.D., President
MARVIN N. LYMBERIS, M.D., Speaker
JACK HUGHES, M.D., Secretary
WILLIAM N. HILLIARD, Executive Director

Highlights of the Program

NORTH CAROLINA MEDICAL SOCIETY 125th ANNUAL SESSION May 3-6, 1979 PINEHURST HOTEL PINEHURST, NORTH CAROLINA

THURSDAY, MAY 3

- 8:00 a.m. — REGISTRATION (West Lobby)
- 9:00 a.m. — HOUSE OF DELEGATES — Opening Session (Cardinal Ballroom)
- 9:00 a.m. — AUDIO-VISUAL PROGRAM — (HMS Bounty)
- 10:30 a.m.-12:30 p.m. — SECTION ON UROLOGY — (Carolina Board Room)
- 2:15 p.m. — SECTION ON OPHTHALMOLOGY LUNCHEON — (Crystal Room)
- 2:00 p.m. — SECTION ON OPHTHALMOLOGY — Scientific Session — (Crystal Room)
- 2:00 p.m. — REFERENCE COMMITTEE HEARINGS — (Cardinal Ballroom and Game Room)
- 2:00 p.m. — SECTION ON OBSTETRICS & GYNECOLOGY — Business Meeting — (Carolina Board Room)
- 5:30 p.m. — SOCIAL HOUR — University of Virginia Alumni — (Room #240)
- 5:00 p.m. — RECEPTION — Mecklenburg County Medical Society — (Poolside)
- 5:30 p.m. — SOCIAL HOUR — Section on Urology — (HMS Bounty)
- 5:30 p.m. — SOCIAL HOUR — MCV Alumni — (Room 439)
- 7:30 p.m. — DINNER — MCV (Crystal Room)

FRIDAY, MAY 4

- 8:30 a.m. — CONJOINT SESSION — North Carolina Medical Society and the North Carolina Division of Health Services (Cardinal Ballroom)
- 9:00 a.m. — FIRST GENERAL SESSION — (Cardinal Ballroom) — MEDICAL SESSION — presented by the Department of Medicine, Duke University Medical Center, Durham
- 9:00 a.m. — SECTION ON OTOLARYNGOLOGY & MAXILLOFACIAL SURGERY — (Banquet Room — Pinehurst Country Club)
- 9:00 a.m. — AUDIO-VISUAL PROGRAM — (HMS Bounty)
- 10:30 a.m.-12 Noon — Meeting of Commission for Health Services — (Parlor #129)
- 1:00 a.m. — Executive Committee Meeting — Section on Pediatrics — (Board Room)

- 11:00 a.m. — Liaison Committee Meeting — Section on Pediatrics — (Board Room)
- 12:00 Noon — PICNIC — SECTION ON DERMATOLOGY — (Poolside)
- 1:00 p.m.-6:00 p.m. — SECTION ON EMERGENCY MEDICINE — (Dining Room, Pinehurst Country Club)
- 2:00 p.m. — SECTION ON DERMATOLOGY — Scientific Session — (Broadmoor Villa Parlor)
- 2:00 p.m. — SECTION ON PEDIATRICS — Scientific Session — (Crystal Room)
- 2:00 p.m.-5:00 p.m. — SECTION ON PUBLIC HEALTH & EDUCATION — (Banquet Room, Pinehurst Country Club)
- 2:00 p.m.-5:00 p.m. — SECTION ON FAMILY PRACTICE — (Main Lobby, Pinehurst Country Club)
- 2:30 p.m. — MEDICAL MARRIAGE ENRICHMENT MEETING — sponsored by Auxiliary — (Cardinal Ballroom)
- 4:00 p.m. — NCSIM EXECUTIVE COUNCIL MEETING (Augusta Cottage)
- 5:30 p.m. — NCSIM SOCIAL HOUR
- 5:30 p.m.-7:30 p.m. — SOCIAL HOUR & BUFFET DINNER — Bowman Gray Medical Alumni — (Poolside)
- 6:00 p.m. — SOCIAL HOUR — UNC Medical Alumni — (HMS Bounty)
- 6:30 p.m.-8:00 p.m. — EXHIBITORS' SOCIAL HOUR — (Land Sales Office)

SATURDAY, May 5

- 7:00 a.m.-8:30 a.m. — BREAKFAST — MARITAL COUNSELLING — (Crystal Room) Speaker: Dr. John S. Compere
- 7:45 a.m. — Meeting — EDITORIAL BOARD, NORTH CAROLINA MEDICAL JOURNAL — (Parlor #129)
- 8:45 a.m. — SECTION ON NEUROLOGY & PSYCHIATRY — Scientific Session — (Dining Room, Pinehurst Country Club)
- 9:00 a.m. — SECOND GENERAL SESSION — Surgical Session — (Cardinal Ballroom) presented by: Department of Surgery, East Carolina University School of Medicine, Greenville
- 9:00 a.m. — SECTION ON NUCLEAR MEDICINE — Scientific Session — (HMS Bounty)
- 9:00 a.m. — SECTION ON ANESTHESIOLOGY — Scientific Session — (Carolina Board Room)

9:00 a.m.-12:30 p.m. — SECTION ON ORTHOPAEDICS — Scientific Session — (Banquet Room, Pinehurst Country Club)
 12:30 p.m. — SECTION ON SURGERY — Business Meeting — (Cardinal Ballroom)
 12:30 p.m. — SECTION ON NEUROLOGICAL SURGERY — Luncheon — (Crystal Room)
 2:00 p.m.-5:00 p.m. — SECTION ON NEUROLOGICAL SURGERY — Scientific Session — (Crystal Room)
 2:00 p.m. — HOUSE OF DELEGATES — Second Session — (Cardinal Ballroom)
 2:00 p.m. — SECTION ON RADIOLOGY — Scientific Session — (Broadmoor Villa Parlor)
 5:30 p.m.-6:30 p.m. — SOCIAL HOUR — Section on Radiology — (Lakeside Villa Parlor)
 6:30 p.m.-7:30 p.m. — PRESIDENT'S RECEPTION — (Land Sales Office)
 7:30 p.m. — PRESIDENT'S DINNER AND BALL — (Cardinal Ballroom)

GENERAL SESSIONS FIRST GENERAL SESSION

Friday, May 4, 1979 Cardinal Ballroom
 9:00 a.m.-12:00 Noon

Convene Session

Presiding: D. E. Ward, Jr., M.D., President
 Lumberton

Invocation:

Medical Session

Department of Medicine, Duke University Medical Center, Durham

9:00 a.m. — OPENING REMARKS

Ralph Snyderman, M.D., Professor of Medicine, Chief, Rheumatic and Genetic Disease Division, Duke University Medical Center, Durham

9:05 a.m. — HOOPER MEMORIAL LECTURE
 IMMUNOLOGICAL MECHANISMS OF
 TISSUE DESTRUCTION AND THEIR
 ROLE IN RHEUMATIC DISEASES

Ralph Snyderman, M.D., Professor of Medicine

9:45 a.m. — ZINC: A CAUSE OF "INSULIN" ALLERGY

Mark N. Feinglos, M.D.

10:00 a.m. — THE DIAGNOSTIC AND PROGNOSTIC VALUE OF THE EXERCISE STRESS TEST IN PATIENTS WITH ISCHEMIC HEART DISEASE

Robert H. Peter, M.D., Associate Professor of Medicine

10:15 a.m. — DETERMINATION OF CELL KILL FRACTIONS AND POSSIBILITY OF TUMOR ERADICATION IN HUMAN NEOPLASIA

Edwin B. Cox, M.D., Associate in Medicine

10:30 a.m. — BREAK

10:45 a.m. — ENVIRONMENTAL LUNG DISEASES OF NORTH CAROLINA

Herbert O. Sieker, M.D., Professor of Medicine and Chief, Pulmonary Disease Division

11:00 a.m. — SIGNIFICANCE OF VIRAL ANTIGENS AND ANTIBODIES IN PATIENTS WITH ACUTE AND CHRONIC HEPATITIS

Paul G. Killenberg, M.D., Assistant Professor of Medicine

11:30 a.m. — PSYCHO-SOCIAL FACTORS IN CHEMOTHERAPY OF NEOPLASIA

Harold R. Silberman, M.D., Professor of Medicine

11:45 a.m. — DISCUSSION

12:00 Noon — ADJOURN

SECOND GENERAL SESSION

Saturday, May 5, 1979 Cardinal Ballroom
 9:00 a.m.-12:00 Noon

Convene Session

Presiding: Albert Stewart, Jr., M.D.,
 First Vice President
 Fayetteville

SURGICAL SESSION

Department of Surgery, East Carolina University School of Medicine, Greenville

MODERATOR: Walter J. Pories, M.D.

9:05 a.m. — SURGICAL MANAGEMENT OF OBESITY

Walter J. Pories, M.D., Professor and Chairman, Department of Surgery, ECU School of Medicine

9:25 a.m. — ENDOTRACHEAL INTUBATION

Jack H. Welch, M.D., Clinical Professor and Chairman, Department of Anesthesia, ECU School of Medicine

9:45 a.m. — INTRAOCULAR LENS

Steven M. White, M.D., Associate Clinical Professor, Division of Ophthalmology, ECU School of Medicine

10:15 a.m. — VENOUS ULCERS OF THE LEG

Charles G. Rob, M.D., Professor of Surgery, Department of Surgery, ECU School of Medicine

10:30 a.m. — COFFEE BREAK

11:00 a.m. — CARCINOMA OF THE LARYNX

William S. Bost, Jr., M.D., Associate Clinical Professor, Division of Otorhinolaryngology, ECU School of Medicine

11:20 a.m. — THE EXTRACRANIAL CAROTID ARTERY

Ira M. Hardy, II, M.D., Associate Clinical Professor, Division of Neurosurgery, ECU School of Medicine

11:40 a.m. — THE PARATHYROID GLAND

J. Bernard Vick, M.D., Clinical Assistant Professor of Surgery and Chairman, Division of Thoracic Surgery, ECU School of Medicine

2:00 Noon — ANNUAL ADDRESS OF THE
PRESIDENT

D. E. Ward, Jr., M.D., President, Lumberton

May 5, 1979

7:00 a.m. to 8:30 a.m.

Crystal Room

Breakfast meeting

Sponsored by the Committee on Marriage Coun-
seling and Family Life Education, Chairman,
Marianne S. Breslin, M.D.

John Steege, M.D.

Department of Obstetrics and Gynecology
Duke University Medical Center

Introduction of speaker

Dr. John Compere*

Clinical Psychologist

Winston-Salem

Human Sexuality: Fallacies, Facts and Feelings

SECTION ON OBSTETRICS AND GYNECOLOGY

Thursday, May 3, 1979

8:00 p.m. Parlor #129

CHAIRMAN: John A. Kirkland, M.D., Wilson

Business Session

Election of Officers, Delegate, Alternate Delegate
for 1979-1980.

SECTION ON UROLOGY

Thursday, May 3, 1979

8:30 a.m. Carolina Board Room

CHAIRMAN: Thomas L. Griffin, M.D., Wilson

8:30 a.m.—BUSINESS MEETING

Election of Officers, Delegate, Alternate Delegate
for 1979-1980

Scientific Session

8:15 a.m. — HAPPINESS, HARMONY AND
HEMATURIA

James F. Glenn, M.D., Chairman, Department
of Urology, Duke University Medical Center,
Durham

12:00 Noon — REMARKS CONCERNING IMPACT
OF CURRENT LEGISLATION ON THE
PRACTICE OF MEDICINE

Jack Hughes, M.D., Durham, Secretary,
North Carolina Medical Society

SECTION ON OPHTHALMOLOGY

Thursday, May 3, 1979

CHAIRMAN: Maurice B. Landers, III, M.D., Dur-
ham

Invited guest

PROGRAM CHAIRMAN: David B. Sloan, Jr., M.D.,
Wilmington

2:00 p.m.-5:00 p.m. Crystal Room

Scientific Session

2:00 — LONG TERM EXPERIENCE WITH
TIMOLOL

Glen Brindley, M.D., Durham, and John
Sonntag, M.D., Durham

2:15 — RECENT ADVANCES IN TREATMENT
OF HERPES SIMPLEX KERATITIS

Kenneth L. Cohen, M.D., Chapel Hill

2:30 — ANIMAL MODELS OF OCULAR DIS-
EASE IN MAN

R. L. Peiffer, Jr., D.V.M., Chapel Hill

2:45 — EYE AREA COSMETICS

Frances Pascher, M.D., Apex

3:15-3:30 — COFFEE BREAK

3:30 — CURRENT MANAGEMENT OF GIANT
RETINAL TEARS

Maurice B. Landers, III, M.D., Durham and
Rubert Machemer, M.D., Durham

3:45 — EXPERIENCE WITH THE SHEARING
LENS IMPLANT

Charles Tillett, M.D., Charlotte

4:00 — ANTERIOR SEGMENT VITRECTOMY IN
THE TREATMENT OF THE COMPLICA-
TIONS OF CATARACT SURGERY

Scott A. Brower, M.D., Durham, and Samuel
D. McPherson, M.D., Durham

4:15 — DIGITAL PRESSURE FOR THE PROMO-
TION OF FILTRATION: REVIVAL AND
REVITALIZATION OF AN OLD TECH-
NIQUE

L. Frank Cashwell, M.D., Winston-Salem

4:30 — THERAPEUTIC KERATOPLASTY

John Reed, M.D., Winston-Salem

Business Session

Election of Officers, Delegate, Alternate Delegate
for 1979-1980.

SECTION ON OTOLARYNGOLOGY AND
MAXILLOFACIAL SURGERY

Friday, May 4, 1979

9:00 a.m.-1:00 p.m.
..... Banquet Room — New Members
Club, Pinehurst Country Club

CHAIRMAN: Ellison F. Edwards, M.D., Charlotte
PROGRAM CHAIRMAN: William Ross Pitzer,
M.D., Winston-Salem

Scientific Session

9:00-9:35 — MYRINGOTOMY TUBES 1979

Bruce H. Berryhill, M.D., Charlotte Eye, Ear
& Throat Hospital, Charlotte

9:35-10:10 — LARYNGEAL LASER SURGERY

George B. Ferguson, M.D., McPherson Hos-
pital, Durham

- 10:10-10:45 — COMPLICATIONS OF ENDO-
TRACHEAL INTUBATIONS
James A. Kaufman, M.D., Bowman Gray
School of Medicine, Winston-Salem
- 10:45-11:15 — BREAK
- 11:15-11:50 — PHARYNGO-ESOPHAGEAL RE-
PLACEMENT SURGERY
T. Boyce Cole, M.D., Duke University Medi-
cal Center, Durham
- 11:50-12:25 — MANAGEMENT OF LAFORT II
FRACTURES
Walter R. Sabiston, M.D., Kinston Clinic,
Kinston
- 12:25-1:00 — AVOIDANCE OF EARLY COMPLI-
CATIONS OF RADICAL SURGERY
W. Paul Biggers, M.D., University of N.C.
Medical School, Chapel Hill and Paul S. Cam-
nitz, M.D., University of N.C. Medical School,
Chapel Hill

Business Session

Election of Officers, Delegate, Alternate Delegate
for 1979-1980.

SECTION ON PEDIATRICS

Friday, May 4, 1979

- CHAIRMAN: David R. Williams, M.D., Thomasville
- 10:00 a.m. — Executive Committee Meeting — Board
Room
- 11:00 a.m. — Liaison Committee Meeting, Board
Room
- 1:00 p.m. — Liaison Committee Lunch, Dining
Room

Scientific Session

Crystal Room

- 2:00 p.m. — TREATMENT OF HEMANGIOMAS
Charles Longenecker, M.D., Asheville
- 2:30 p.m. — SUTURING OF MINOR WOUNDS IN
THE EMERGENCY ROOM
Robert B. Winslow, M.D., Raleigh
- 3:00 p.m. — WHEN DO YOU SEND THE PA-
TIENT TO A PLASTIC SURGEON AND
WHAT CAN HE DO FOR YOUR PATIENT?
Hal Chaplin, M.D., Charlotte
- 3:30 p.m. — THE ACUTE MANAGEMENT OF
THE BURN PATIENT
Richard Schwartz, M.D., UNC, Chapel Hill

QUESTIONS & ANSWERS

Brief business meeting of the N.C. Chapter of the
American Academy of Pediatrics and the N.C. Pediatric
Society.

SECTION ON DERMATOLOGY

Friday, May 4, 1979

- CHAIRMAN: Wade G. Rhoades, M.D., Winston-
Salem
- 12:00 Noon-1:00 p.m. — PICNIC LUNCH, Poolside
- 2:00 p.m.-5:00 p.m., Parlor — Broadmoor Villa

Scientific Session

- 2:00 — HAIR DISORDERS
Robert G. Crounse, M.D., Chapel Hill
- 2:30 — FACTORS IN CELL GROWTH
Edward J. O'Keefe, M.D., Chapel Hill
- 3:00 — IMMUNOPATHOLOGY AND IMMUNE
FLUORESCENCE OF SKIN DISORDERS
W. Ray Gammon, M.D., Chapel Hill
- 3:30 — INTERMISSION
- 3:45 — EPIDERMAL-DERMAL RELATION-
SHIPS
Robert A. Briggaman, M.D., Chapel Hill
- 4:15 — ZOSTER
Clayton E. Wheeler, Jr., M.D., Chapel Hill
- 4:45 — CELL SURFACE RECEPTORS
Edward J. O'Keefe, M.D., Chapel Hill

Business Session

Election of Officers, Delegate, Alternate Delegate
for 1979-1980.

SECTION ON EMERGENCY MEDICINE

Friday, May 4, 1979

- CHAIRMAN: John W. Baker, M.D., Charlotte
- 1:00 p.m.-6:00 p.m. Dining Room — Pinchurst Coun-
try Club

Scientific Session

- 1:00-2:00 — BOARD OF DIRECTORS MEETING
— STATE CHAPTER ACEP
- 2:00-3:00 — CARDIAC CONTUSIONS
Angus Warren, M.D., Winston-Salem
- 3:00-4:00 — DENTAL INJURIES AND DENTAL
EMERGENCIES IN THE EMERGENCY DE-
PARTMENT
Joe Niamtu, M.D., Charlotte
- 4:00-5:00 — ACIDOSIS IN THE EMERGENCY
DEPARTMENT
John Baker, M.D., Charlotte

Business Session

- 5:00-6:00 — Election of Officers, Delegate, Alternate
Delegate for 1979-1980.

SECTION ON PUBLIC HEALTH AND EDUCATION

Friday, May 4, 1979

- CHAIRMAN: Harry T. Phillips, M.D., Chapel Hill
- 1:30 p.m.-5:00 p.m. Banquet Room

BUSINESS SESSION

- 1:30 p.m. — Business Meeting

Scientific Session

- 2:00 p.m. — PREVENTIVE ASPECTS OF THE
CARDIAC REHABILITATION PROGRAM
Henry Miller, M.D., Winston-Salem
- 3:00 p.m. — THE INTERNATIONAL YEAR FOR
THE CHILD: WHAT PUBLIC HEALTH IS
DOING
Hugh H. Tilson, M.D., Raleigh
- Election of Officers, Delegate, Alternate De-
legate for 1979-1980

SECTION ON FAMILY PRACTICE

Friday, May 4, 1979

CHAIRMAN: Lyndon K. Jordan, M.D., Smithfield
PROGRAM CHAIRMAN: Richard Lyles, M.D., Albemarle

2:00 p.m.-5:00 p.m. Main Lobby
Pinehurst Country Club

Scientific Session

2:00 — WHEN DO YOU SEND A PATIENT TO A PLASTIC SURGEON

C. Hal Chaplin, M.D., Charlotte

2:45 — TREATMENT OF BURN PATIENTS

Richard Schwartz, M.D., UNC, Chapel Hill

3:30 — THE SURGICAL APPROACH TO SUN DAMAGED SKIN

Denis Fabian, M.D., Fayetteville

4:15 — THE FAMILY PRACTICE RESIDENTS' PAPER

Business Session

Election of Officers, Delegate, Alternate Delegate for 1979-1980

MEDICAL MARRIAGE ENRICHMENT

sponsored by
Auxiliary/Medical Society

Friday, May 4, 1979 — 2:30 p.m. Cardinal Ballroom
Residing: Mrs. Richard E. Frazier, President Elect,
Auxiliary to the North Carolina Medical Society

"THE TELEPHONE IS RINGING, THEY NEED YOU. WE NEED YOU."

"THE PHYSICIAN'S MARRIAGE AND FAMILY

PEAKER: William P. Wilson, M.D., Psychiatrist,
Duke University Medical Center, Durham

This program meets the CME requirements for two (2) hours Category I credit toward the AMA Physician's Recognition Award, or two (2) hours Category A credit for the North Carolina Medical Society.)

SECTION ON NEUROLOGY AND PSYCHIATRY

Saturday, May 5, 1979

CHAIRMAN: Fred H. Allen, M.D., Charlotte

8:00 a.m.-12:45 p.m. Old Dining Room, Pinehurst Country Club

Scientific Session

8:00 a.m. — CALL TO ORDER

8:00 a.m. — DIAGNOSTIC ULTRASOUND

William McKinney, M.D., Winston-Salem

9:00 a.m. — COFFEE BREAK

9:15 a.m. — A MODERATE APPROACH TO TREATMENT OF HEADACHES

James Adelman, M.D., Greensboro

10:30 a.m. — NEW DEVELOPMENTS IN NEUROLOGY

Fred H. Allen, Jr., M.D., Charlotte

12:00 Noon — BUSINESS MEETING — Section on Neurology and Psychiatry

Election of Officers, Delegate, Alternate Delegate for 1979-1980

12:45 p.m. — DUTCH LUNCHEON

SECTION ON PATHOLOGY

Saturday, May 5, 1979

2:00-5:00 p.m. Game Room

CHAIRMAN: Charles L. Wells, M.D., Fayetteville

PROGRAM CHAIRMAN: Joseph B. Dudley, M.D., Winston-Salem

Scientific Session

2:00 p.m. — CYTOLOGIC CURIOSITIES

A. Laurance Dee, M.D., Charlotte Memorial Hospital, Charlotte

3:00 p.m. — FIRST ANNUAL WILEY D. FORBUS, M.D., AWARD

Pathology Resident Recipient — Alfred P. Sanfilippo, M.D., North Carolina Society of Pathologists

3:15 p.m. — BREAK

3:30 p.m. — THE CURRENT STATE OF CLINICAL MICROBIOLOGY

Alexander W. McCracken, M.D., Director, Clinical Microbiology and Virology, Baylor University Medical Center, Dallas, Texas

Business Session

4:45 p.m. — Election of Officers, Delegate, Alternate Delegate for 1979-1980.

SECTION ON RADIOLOGY

Saturday, May 5, 1979

CHAIRMAN: Edward V. Staab, M.D., Chapel Hill

2:00 p.m.-5:30 p.m. Parlor — BROADMOOR VILLA

Scientific Session

"NEW FACES, NEW IDEAS"

2:00 p.m. — MAGNIFICATION BONE RADIOGRAPHY

H. Bonner Guilford, M.D., University of North Carolina

2:30 p.m. — COMPUTED TOMOGRAPHY OF THE ADRENAL GLANDS

Mel Korobkyn, M.D., Duke University

3:00 p.m. — ULTRASOUND OF THE LIVER

Edward B. Black, M.D., Charlotte Memorial Hospital

3:45 P.M. — NEW TECHNIQUES IN RADIOGRAPHY

K. Amplatz, M.D., University of Minnesota

4:30 p.m. — METHODS FOR PERFORMING BARIUM ENEMA, ACCURACY vs COST

D. Gelfand, M.D., Bowman Gray School of Medicine

Business Session

5:00 p.m. — Election of Officers, Delegate, Alternate Delegate for 1979-1980

5:30-6:30 p.m. — COCKTAILS — Lakeside Villa Parlor

In Memoriam

RALPH VERNON WOLFE, M.D.

Dr. Ralph V. Wolfe died on January 1 at age 75. He was born in Mercy County, Illinois, on October 14, 1903. His pre-medical education was obtained at Indiana University and he graduated from the Indiana School of Medicine in June, 1937. He completed his internship and surgical residency at City Memorial Hospital in Winston-Salem in June, 1940, and became an assistant in anatomy at Bowman Gray School of Medicine in 1941. He also began private practice and joined the Forsyth County Medical Society that year. In 1942, he began military service with the 68th Field Hospital; he resumed private practice in 1946. His years in practice were characterized by his devotion to his patients and their best interests.

FORSYTH COUNTY MEDICAL SOCIETY



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ANESTHESIOLOGIST — Board eligible, University trained, presently working in university hospital in all fields of anesthesiology including open heart and OB. Wishes to relocate in N.C. for group or fee for service. Write: J. Patel, 133-52 Avery Avenue, Flushing, New York 11355, Phone: day (212) 430-2872 evenings (212) 939-7979.

OB-GYN PHYSICIAN NEEDED in Piedmont Town of Asheboro. Town is approximately 20,000 with county 80,000 population. Very good opportunity exists for one or two OB-GYN. Contact me, Robert E. Williford, M.D. 919-625-4000.

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For recurrent attacks of urinary tract infection in women

BactrimTM DS Double Strength Tablets

Each tablet contains 160 mg trimethoprim and 800 mg sulfamethoxazole.

Just one tablet b.i.d. for 10 to 14 days



- Action at urinary/vaginal/lower bowel sites helps eliminate reservoirs of infecting organisms
- Distinctive antibacterial action plus wide spectrum helps eradicate recurrent UTI
- Low incidence of bacterial resistance in community practice

- Convenient *b.i.d.* dosage provides day-and-night antibacterial control
- Contraindicated during pregnancy and the nursing period. During therapy, maintain adequate fluid intake; perform CBC's and urinalyses with microscopic examination.

Before prescribing, please consult complete product information, a summary of which follows:

Indications and Usage: For the treatment of urinary tract infections due to susceptible strains of the following organisms: *Escherichia coli*, *Klebsiella-Enterobacter*, *Proteus mirabilis*, *Proteus vulgaris*, *Proteus morganii*. It is recommended that initial episodes of uncomplicated urinary tract infections be treated with a single effective antibacterial agent rather than the combination. *Note:* The increasing frequency of resistant organisms limits the usefulness of all antibacterials, especially in these urinary tract infections.

Also for the treatment of documented *Pneumocystis carinii* pneumonitis. To date, this drug has been tested only in patients 9 months to 16 years of age who were immunosuppressed by cancer therapy.

The recommended quantitative disc susceptibility method (*Federal Register*, 37 20527-20529, 1972) may be used to estimate bacterial susceptibility to Bactrim. A laboratory report of "Susceptible to trimethoprim-sulfamethoxazole" indicates an infection likely to respond to Bactrim therapy. If infection is confined to the urine, "Intermediate susceptibility" also indicates a likely response. "Resistant" indicates that response is unlikely.

Contraindications: Hypersensitivity to trimethoprim or sulfonamides; pregnancy; nursing mothers; infants less than two months of age.

Warnings: Deaths from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias have been associated with sulfonamides. Experience with trimethoprim is much more limited but occasional interference with hematopoiesis has been reported as well as an increased incidence of thrombopenia with purpura in elderly patients on certain diuretics, primarily thiazides. Sore throat, fever, pallor, purpura or jaundice may be early signs of serious blood disorders. Frequent CBC's are recommended; therapy should be discontinued if a significantly reduced count of any formed blood element is noted.

Precautions: Use cautiously in patients with impaired renal or hepatic function, possible folate deficiency, severe allergy or bronchial asthma. In patients with glucose-6-phosphate dehydrogenase deficiency, hemolysis, frequently dose-related, may occur. During therapy, maintain adequate fluid intake and perform frequent urinalyses, with careful microscopic examination, and renal function tests, particularly where there is impaired renal function.

Adverse Reactions: All major reactions to sulfonamides and trimethoprim are included, even if not reported with Bactrim. **Blood dyscrasias:** Agranulocytosis, aplastic anemia, megaloblastic anemia, thrombopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia. **Allergic reactions:** Erythema multiforme, Stevens-Johnson syndrome, generalized skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis. **Gastrointestinal reactions:** Glossitis, stomatitis, nausea, emesis, abdominal pains, hepatitis, diarrhea and pancreatitis. **CNS reactions:** Headache,

peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo, insomnia, apathy, fatigue, muscle weakness and nervousness. **Miscellaneous reactions:** Drug fever, chills, toxic nephrosis with oliguria and anuria, periarteritis nodosa and L. E. phenomenon. Due to certain chemical similarities to some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia in patients; cross-sensitivity with these agents may exist. In rats, long-term therapy with sulfonamides has produced thyroid malignancies.

Dosage: Not recommended for infants less than two months of age.

Urinary Tract Infections. Usual adult dosage—1 DS tablet (double strength), 2 tablets (single strength) or 4 teasp. (20 ml) b.i.d. for 10-14 days.

Recommended dosage for children—8 mg/kg trimethoprim and 40 mg/kg sulfamethoxazole per 24 hours, in two divided doses for 10 days. A guide follows.

Children two months of age or older

Weight		Dose—every 12 hours	
lbs	kgs	Teaspoonfuls	Tablets
20	9	1 teasp. (5 ml)	½ tablet
40	18	2 teasp. (10 ml)	1 tablet
60	27	3 teasp. (15 ml)	1½ tablets
80	36	4 teasp. (20 ml)	2 tablets or 1 DS tablet

For patients with renal impairment:

Creatinine Clearance (ml/min)	Recommended Dosage Regimen
Above 30	Usual standard regimen
15-30	½ the usual regimen
Below 15	Use not recommended

***Pneumocystis carinii* pneumonitis.** Recommended dosage: 20 mg/kg trimethoprim and 100 mg/kg sulfamethoxazole per 24 hours in equal doses every 6 hours for 14 days. See complete product information for suggested children's dosage table.

Supplied: Double Strength (DS) tablets, each containing 160 mg trimethoprim and 800 mg sulfamethoxazole, bottles of 100; Tel-E-Dose[®] packages of 100. Tablets, each containing 80 mg trimethoprim and 400 mg sulfamethoxazole—bottles of 100 and 500; Tel-E-Dose[®] packages of 100; Prescription Paks of 40, available singly and in trays of 10. Oral suspension, containing in each teaspoonful (5 ml) the equivalent of 40 mg trimethoprim and 200 mg sulfamethoxazole, fruit-licorice flavored—bottles of 16 oz (1 pint).



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Bactrim fights uropathogens in the urinary tract/vaginal tract/lower intestinal tract

Please see reverse side for summary of product information.

NORTH CAROLINA

Medical Journal

The Official Journal of the NORTH CAROLINA MEDICAL SOCIETY □ □ □ April 1979, Vol. 40, No. 4

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SPECIAL ARTICLE: Medical Education at Chapel Hill, the First 100 Years, Part II: W. Reece Berryhill, M.D., William B. Blythe, M.D., and Isaac Hall Manning, M.D.

Hospice in North Carolina: Background and Unanswered Questions: Bill Griffen, M.D., and Dan Blazer, M.D.

White Blood Cell Count and Differential in Rocky Mountain Spotted Fever: George W. Hall, M.D., and Robert P. Schwartz, M.D.

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1979 Annual Sessions
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1979 Committee Conclave
Sept. 26-30—Southern Pines

PEDIATRIC INDICATIONS* FOR BACTRIM CONTINUE TO GROW...

*URINARY TRACT
INFECTIONS*

*PNEUMOCYSTIS
CARINII
PNEUMONITIS*

SHIGELLOSIS

*ACUTE OTITIS
MEDIA*

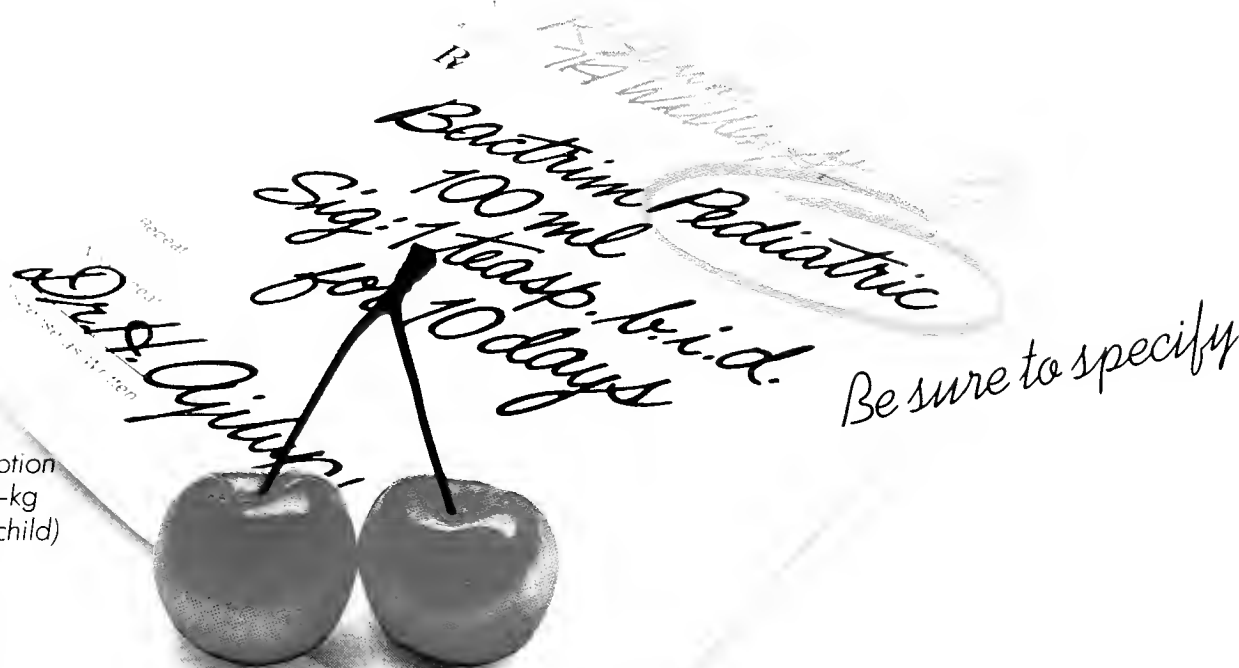
**Involving susceptible organisms.*

Please see Indications section in summary of product information on last page of this advertisement.

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NEW CHERRY FLAVOR **BACTRIMTM** **PEDIATRIC** **SUSPENSION**

Each teaspoonful (5 ml) contains
40 mg trimethoprim and 200 mg sulfamethoxazole.



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FOR CHILDREN*

Also available: The original fruit-licorice flavor to be prescribed
as "Bactrim Suspension." The same active ingredient formulation—the difference is the flavor.

*Contraindicated in children under 2 months of age.

Please see summary of product information on following page.

BACTRIM

(trimethoprim and sulfamethoxazole)

ROCHE

Before prescribing, please consult complete product information, a summary of which follows:

Indications and Usage: For the treatment of urinary tract infections due to susceptible strains of the following organisms: *Escherichia coli*, *Klebsiella-Enterobacter*, *Proteus mirabilis*, *Proteus vulgaris*, *Proteus morganii*. It is recommended that initial episodes of uncomplicated urinary tract infections be treated with a single effective antibacterial agent rather than the combination. *Note:* The increasing frequency of resistant organisms limits the usefulness of all antibacterials, especially in these urinary tract infections.

For acute otitis media in children due to susceptible strains of *Haemophilus influenzae* or *Streptococcus pneumoniae* when in physician's judgment it offers an advantage over other antimicrobials. Limited clinical information presently available on effectiveness of treatment of otitis media with Bactrim when infection is due to ampicillin-resistant *Haemophilus influenzae*. To date, there are limited data on the safety of repeated use of Bactrim in children under two years of age. Bactrim is not indicated for prophylactic or prolonged administration in otitis media at any age.

For enteritis due to susceptible strains of *Shigella flexneri* and *Shigella sonnei* when antibacterial therapy is indicated.

Also for the treatment of documented *Pneumocystis carinii* pneumonitis. To date, this drug has been tested only in patients 9 months to 16 years of age who were immunosuppressed by cancer therapy.

Contraindications: Hypersensitivity to trimethoprim or sulfonamides; pregnancy; nursing mothers; infants less than two months of age.

Warnings: BACTRIM SHOULD NOT BE USED TO TREAT STREPTOCOCCAL PHARYNGITIS. Clinical studies show that patients with group A β hemolytic streptococcal tonsillitis/pharyngitis have higher incidence of bacteriologic failure when treated with Bactrim than do those treated with penicillin. Deaths from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias have been associated with sulfonamides. Experience with trimethoprim is much more limited but occasional interference with hematopoiesis has been reported as well as an increased incidence of thrombopenia with purpura in elderly patients on certain diuretics, primarily thiazides. Sore throat, fever, pallor, purpura or jaundice may be early signs of serious blood disorders. Frequent CBCs are recommended. Therapy should be discontinued if a significantly reduced count of any formed blood element is noted.

Precautions: Use cautiously in patients with impaired renal or hepatic function; possible folate deficiency; severe allergy or bronchial asthma. In patients with glucose-6-phosphate dehydrogenase deficiency, hemolysis, frequently dose-related, may occur. During therapy maintain adequate fluid intake and perform frequent urinalyses with careful microscopic examination and renal function tests, particularly where there is impaired renal function. Bactrim may prolong prothrombin time in those receiving warfarin; reassess coagulation time when administering Bactrim to these patients.

Adverse Reactions: All major reactions to sulfonamides and trimethoprim are included, even if not reported with Bactrim. Blood dyscrasias: Agranulocytosis, aplastic anemia, megaloblastic anemia, thrombopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia. Allergic reactions: Erythema multiforme, Stevens-Johnson syndrome, generalized skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis. Gastrointestinal reactions: Glossitis, stomatitis, nausea, emesis, abdominal pains, hepatitis, diarrhea and pancreatitis. CNS reactions: Headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo, insomnia, apathy, fatigue, muscle weakness and nervousness. Miscellaneous reactions: Drug fever, chills, toxic nephrosis with oliguria and anuria, perianteritis nodosa and L.E. phenomenon. Due to certain chemical similarities to some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia in patients; cross-sensitivity with these agents may exist. In rats, long-term therapy with sulfonamide has produced thyroid malignancies.

Dosage: Not recommended for infants less than two months of age.

URINARY TRACT INFECTIONS AND SHIGELLOSIS IN ADULTS AND CHILDREN AND ACUTE OTITIS MEDIA IN CHILDREN

Adults: Usual adult dosage for urinary tract infections—1 DS tablet (double strength), 2 tablets (single strength) or 4 teasp. (20 ml) b.i.d. for 10-14 days. Use identical daily dosage for 5 days for shigellosis.

Children: Recommended dosage for children with urinary tract infections or acute otitis media—8 mg/kg trimethoprim and 40 mg/kg sulfamethoxazole per 24 hours, in two divided doses for 10 days. Use identical daily dosage for 5 days for shigellosis. A guide follows. Children two months of age or older.

lbs	Weight	Dose—every 12 hours	
		Teaspoonfuls	Tablets
22	10	1 teasp. (5 ml)	1/2 tablet
44	20	2 teasp. (10 ml)	1 tablet
66	30	3 teasp. (15 ml)	1 1/2 tablets
88	40	4 teasp. (20 ml)	2 tablets or 1 DS tablet

For patients with renal impairment

Creatinine Clearance (ml/min)	Recommended Dosage Regimen
Above 30	Usual standard regimen
15-30	1/2 the usual regimen
Below 15	Use not recommended

PNEUMOCYSTIS CARINII PNEUMONITIS: Recommended dosage: 20 mg/kg trimethoprim and 100 mg/kg sulfamethoxazole per 24 hours in equal doses every 6 hours for 14 days. See complete product information for suggested children's dosage table.

Supplied: Double Strength (DS) tablets, each containing 160 mg trimethoprim and 800 mg sulfamethoxazole; bottles of 100. Tel-E-Dose® packages of 100. Prescription Paks of 20 Tablets, each containing 80 mg trimethoprim and 400 mg sulfamethoxazole—bottles of 100 and 500. Tel-E-Dose® packages of 100. Prescription Paks of 40, available singly and in trays of 10. Pediatric Suspension, containing in each teaspoonful (5 ml) the equivalent of 40 mg trimethoprim and 200 mg sulfamethoxazole, cherry flavored—bottles of 16 oz (1 pint). Suspension, containing in each teaspoonful (5 ml) the equivalent of 40 mg trimethoprim and 200 mg sulfamethoxazole, fruit-flavor, orange flavored—bottles of 16 oz (1 pint).

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Memphis, Tennessee
- April 19-21 **Alabama Medical Association**
Birmingham Hyatt House, Civic Center
Birmingham, Alabama
- April 19-22 **Missouri State Medical Association**
Chase-Park Plaza Hotel
St. Louis, Missouri
- April 20-22 **Georgia Medical Association**
De Soto Hilton
Savannah, Georgia
- April 21-22 **Iowa Medical Society**
Hyatt House
Des Moines, Iowa
- April 22-25 **Arkansas Medical Society**
Little Rock Convention Center
Little Rock, Arkansas
- April 25-29 **Arizona Medical Association**
Safari Hotel
Scottsdale, Arizona
- April 26-29 **South Carolina Medical Association**
Myrtle Beach Hilton
Myrtle Beach, South Carolina
- April 29-May 2 **Nebraska Medical Association**
Holiday Inn
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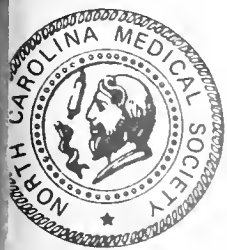
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PRESIDENT'S NEWSLETTER

NORTH CAROLINA MEDICAL SOCIETY

NO. 11

April 1979

I hope each of you are planning to attend the 125th Annual Session of the N. C. Medical Society at the Pinehurst Hotel, May 3-6, 1979. There will be a new format for the meeting this year with the First Session of the House of Delegates scheduled for 9:00 a.m., Thursday, May 3rd, and the Second Session scheduled for 2:00 p.m. Saturday, May 5th. An excellent scientific program has been planned and Thomas Ballentine, M.D., AMA Board of Trustees, will speak on May 5th.

The Executive Council of the Society met in Raleigh, April 1, 1979. E. Harvey Estes, Jr., M.D., Past-President and Secretary of the Mediation Committee reported they had investigated 43 complaints against physicians during the past year. John T. Dees, M.D., stated that there were 700 Society members who were MEDPAC members. James E. Davis, M.D., AMA Delegate and Chairman of the Governor's Primary Care Task Force Committee, presented their report which was approved by the Council. This will be discussed by the House of Delegates in May. The Council voted to hold the 1980 Medical Society Leadership Conference in Charlotte. It was reported that there were now only 94 physicians who have not reported their CME requirements for membership. The Council voted to continue the AMA Health Improvement Project for jails and correctional facilities in N. C. under an AMA-LEAA Grant. Louis Shaffner, M.D., Past-President and AMA Delegate, presented a statement prepared for the ad hoc Committee on the Principles of Medical Ethics of AMA which will be discussed at the Annual Meeting.

The Council voted to support HB 818, the Drug Product Selection Bill, now under consideration by the General Assembly. This bill may help reduce the patient's cost for prescription medicine by allowing the pharmacist to substitute a less expensive generic equivalent. It would allow a pharmacist to substitute only those drugs that have the same active ingredients, strength, quality, and therapeutic equivalence. Substitution would only be allowed when the substituted drug is less expensive than the prescribed drug. Most importantly, the bill continued to recognize the physician's ultimate responsibility to his patients in prescribing medication by allowing the physician to indicate on the prescription blank whether or not the pharmacists may substitute.

The Council voted to support HB 372 which would appropriate funds for Congenital Hypothyroidism Screening Funding. The Council voted our continued support of the Medical Auxiliary sponsored bill HB 974 which requests increased appropriations for the Health Education Law for 16 additional county school systems.

At the N. C. Joint Conference Committee on Medical Care, Inc., meeting in Durham, on March 15, 1979, Sarah A. T. Morrow, M.D., Secretary, Dept. of Human Resources, and Hugh Tilson, M.D., Division of Health Services, announced that the Central Tumor Cancer Registry would be continued. The Cancer Registry has had the strong support of the Medical Society and the American Cancer Society, and we are certainly gratified to hear this decision. I believe that we need more hospitals with tumor registries and more physicians in our state participating in the cancer programs. At the present time, there are only 23 cancer registries in the state. To make this program effective and beneficial to cancer research, we definitely need more hospitals and physician participation in local tumor registries. Dr. Morrow stated

she plans to seek legislation which would make a comprehensive study of the present cancer programs in the state (including the Cancer Registry, as well as the current cancer statutes) and to report to the 1980 General Assembly.

The Committee on Physician's Health and Effectiveness has been active this year. We have some physicians in our state who have problems with health, alcohol, drugs, and other impairments which limit or prevent their effective practice of medicine. Through this Committee, the Society wants to assist these physicians with their problems and rehabilitation to active practice. It has been stated by G. Douglas Talbert, M.D., Atlanta, Ga., that 10% of physicians have some problems which effects their practice. If you know of someone in your area who needs help, would you please report this to Theordore R. Clark, M.D., Chairman, or to Headquarters in Raleigh who will forward this information to the Committee. If these problems are recognized and treated early, it enhances the chances of keeping these physicians in active practice.

The North Carolina Medical Society has whole-heartedly endorsed the nomination of John Glasson, M.D., Durham, for re-election to the Council on Medical Service of the AMA.

The following bills of interest to physicians have also been introduced in the North Carolina General Assembly:

SB 549 - A bill to redefine the practice of Chiropractic (which the Medical Society is vigorously opposing) was considered last Thursday by Senate Committee on Human Resources and was referred to a subcommittee of that Senate Committee.

SB 337 - A statewide "Wound Reporting" law would require that the director of a hospital or physician report bullet and gunshot wounds, poisonings, knife wounds, and other injuries that may have been caused by a criminal violent act to local law enforcement authorities. Persons making the report are immune from liability.

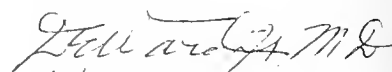
HB 1018 - This bill requires any Parent or Guardian transporting his child under the age of five on a public highway to use child passenger restraints approved by the Federal Trade Commission or Automotive Safety Council. The bill is presently under committee consideration and is supported by the Medical Society.

HB 445 - This bill, introduced by Rep. John Gamble, M.D., creates an income tax deduction for the donation of blood in the amount of \$25 for each pint donated for any nonprofit blood collection agency or the American Red Cross.

HB 415 - A patient Information Exchange bill which provides for the exchange of patient information between any facilities in which mental patients are or have been treated.

I hope that each County Medical Society President has appointed a Vanguard Committee which would provide for County Society members more information and more involvement in the health planning decisions now being made in your county and in your area. This would be the beginning of a comprehensive, long-range program that physicians could use to address pressing health issues of local, state, and national interest. This Vanguard Committee would work with HSA to make their plans as reasonable, valid, and realistic as possible for physicians and for good medical care to our patients.

Sincerely,


D. E. Ward, Jr., M.D.
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OINTMENT

POLYMYXIN B-BACITRACIN
TOPICAL ANTIBACTERIAL

NEOSPORIN
OINTMENT

NEOSPORIN
POLYMYXIN B-BACI
TOPICAL ANT

NEOSPORIN[®] Ointment

(Polymyxin B-Bacitracin-Neomycin)

Burroughs Wellcome Co.
Research Triangle Park
North Carolina 27709



Each gram contains: Aerosporin[®] (Polymyxin B Sulfate) 5,000 units, bacitracin zinc 400 units, neomycin sulfate 5 mg (equivalent to 3.5 mg neomycin base), special white petrolatum qs; in tubes of 1 oz and 1/2 oz and 1/32 oz (approx.) foil packets.

INDICATIONS: *Therapeutically*, (as an adjunct to systemic therapy when indicated), for topical infections, primary or secondary, due to susceptible organisms, as infected burns, skin grafts, surgical incisions, otitis externa; primary pyodermas (impetigo, ecthyma, eczema vulgaris, paronychia); secondarily infected dermatoses (eczema, herpes, and seborrheic dermatitis); traumatic lesions, inflamed or suppurating as a result of bacterial infection. *Prophylactically*, the

ointment may be used to prevent bacterial contamination in burns, skin grafts, incisions, and other clean lesions. For abrasions, minor cuts and wounds accidentally incurred, its use may prevent the development of infection and permit wound healing.

CONTRAINDICATIONS: This product is contraindicated in those individuals who have shown hypersensitivity to any of its components. Do not use in the eyes or in the external ear canal if the eardrum is perforated.

WARNING: Because of the potential hazard of nephrotoxicity and ototoxicity due to neomycin, care should be exercised when using this product in treating extensive burns, trophic ulceration and other extensive conditions where absorption of neomycin is possible. In burns where more than 20 percent of the body surface is affected, especially if the patient has impaired renal function or is receiving other aminoglycoside antibiotics concurrently, not more than one application a day is recommended.

When using neomycin-containing products to control

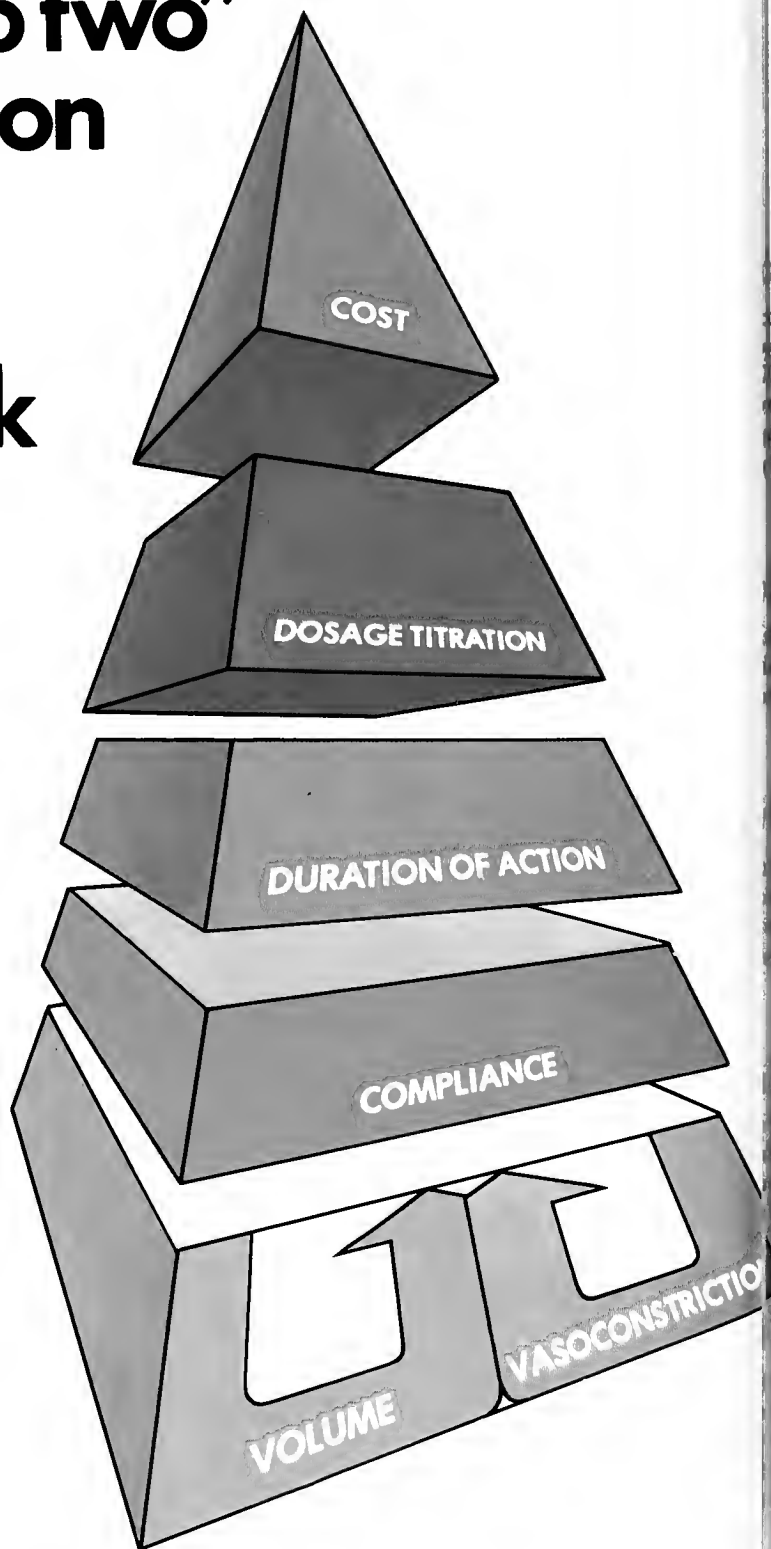
secondary infection in the chronic dermatoses, it should be borne in mind that the skin is more liable to become sensitized to many substances, including neomycin. The manifestation of sensitization to neomycin is usually a low grade reddening with swelling, dry scaling and itching, it may be manifest simply as failure to heal. During long-term use of neomycin-containing products, periodic examination for such signs is advisable and the patient should be told to discontinue the product if they are observed. These symptoms regress quickly on withdrawing the medication. Neomycin-containing applications should be avoided for that patient thereafter.

PRECAUTIONS: As with other antibacterial preparations, prolonged use may result in overgrowth of nonsusceptible organisms, including fungi. Appropriate measures should be taken if this occurs.

ADVERSE REACTIONS: Neomycin is a not uncommon cutaneous sensitizer. Articles in the current literature indicate an increase in the prevalence of persons allergic to neomycin. Ototoxicity and nephrotoxicity have been reported (see Warning section).

Complete literature available on request from Professional Services Dept. PML.

**As in a pyramid,
sound "step two"
hypertension
therapy
requires
every block**



Saluron[®]
(hydroflumethiazide 50 mg.)

Salutensin[®]
(hydroflumethiazide 50 mg./reserpine 0.125 mg.)

Salutensin-Demi[™]
(hydroflumethiazide 25 mg./reserpine 0.125 mg.)

the family of
antihypertensives
completing the
therapeutic pyramid

Cost

According to a recent study,¹ Salutensin[®] (hydroflumethiazide 50 mg./reserpine 0.125 mg.) was the most economical "step two" therapy... about 1/3 the cost of a day's supply of thiazide + methyl dopa or thiazide + propranolol.²

Dosage titration

Salutensin contains the recommended effective doses of both its components, requiring minimal titration.

Duration of action

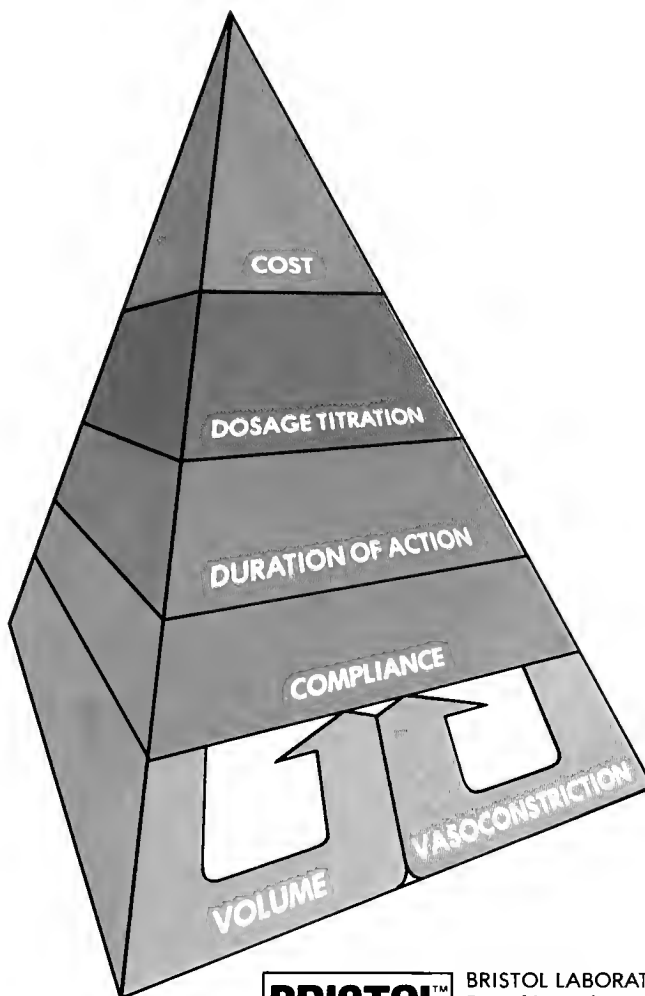
Salutensin contains Saluron (hydroflumethiazide), an intermediate-acting thiazide diuretic, which works over an 18-24 hour period, ideal for once-daily therapy.

Compliance

The total daily dose can be given once a day. Compared with multiple-daily-dosage medications, the chance of a missed dose is greatly reduced.

Volume, vasoconstriction

A the foundation of "step two" hypertension therapy, control of both circulating volume and peripheral resistance can be effectively achieved with the combination tablet Salutensin one day at a time.



BRISTOL[™]

BRISTOL LABORATORIES
Div. of Bristol-Myers Company
Syracuse, N.Y. 13201

References: 1. Finnerty, F.A. et al.: An Evaluation of Step 2 Regimens in Hypertension, data on file, Bristol Laboratories, 1977. 2. Red Book 1977.

For a summary of prescribing information, please see following page.

Saluron[®]

(hydroflumethiazide 50 mg.)

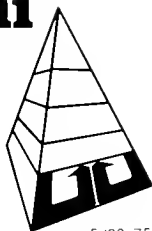
Salutensin[®]

(hydroflumethiazide 50 mg./reserpine 0.125 mg.)

Salutensin-Demi[™]

(hydroflumethiazide 25 mg./reserpine 0.125 mg.)

structured for the long run in "step two" hypertension



5/20/75

Saluron[®] (hydroflumethiazide)

For complete information consult Official Package Circular.

CONTRAINDICATIONS: Patients with anuria, oliguria, or hypersensitivity to this or other sulfanamide derived drugs.

WARNINGS: Saluron should be used with caution in severe renal disease. In patients with renal disease, thiazides may precipitate azotemia. Cumulative effects of the drug may develop in patients with impaired renal function.

Thiazides should be used with caution in patients with impaired hepatic function or progressive liver disease, since minor alterations of fluid and electrolyte balance may precipitate hepatic coma. Thiazides may be additive or potentiative of the action of other antihypertensive drugs. Potentiation occurs with ganglionic or peripheral adrenergic blocking drugs. Sensitivity reactions may occur in patients with a history of allergy or bronchial asthma.

The possibility of exacerbation or activation of systemic lupus erythematosus has been reported.

Usage in pregnancy: Usage of thiazides in women of childbearing age requires that the potential benefits of the drug be weighed against its possible hazards to the fetus. These hazards include fetal or neonatal jaundice, thrombocytopenia, and possibly other adverse reactions which have occurred in the adult.

Nursing mothers: Thiazides cross the placental barrier and appear in cord blood and breast milk.

PRECAUTIONS: Periodic determination of serum electrolytes to detect possible electrolyte imbalance should be performed at appropriate intervals.

All patients receiving thiazide therapy should be observed for clinical signs of fluid or electrolyte imbalance, namely, hyponatremia, hypochloremic alkalosis, and hypokalemia. Serum and urine electrolyte determinations are particularly important when the patient is vomiting excessively or receiving parenteral fluids. Medication such as digitalis may also influence serum electrolytes. Warning signs, irrespective of cause, are: Dryness of mouth, thirst, weakness, lethargy, drowsiness, restlessness, muscle pains or cramps, muscular fatigue, hypotension, oliguria, tachycardia, and gastrointestinal disturbances such as nausea and vomiting.

Hypokalemia may develop with thiazides as with any other potent diuretic, especially with brisk diuresis, when severe cirrhosis is present, or during concomitant use of corticosteroids or ACTH.

Interference with adequate oral electrolyte intake will also contribute to hypokalemia. Digitalis therapy may exaggerate metabolic effects of hypokalemia especially with reference to myocardial activity.

Any chloride deficit is generally mild and usually does not require specific treatment except, under extraordinary circumstances (as in liver disease or renal disease). Dilutional hyponatremia may occur in edematous patients in hot weather; appropriate therapy is water restriction, rather than administration of salt except in rare instances when the hyponatremia is life threatening. In actual salt depletion, appropriate replacement is the therapy of choice.

Hyperuricemia may occur or frank gout may be precipitated in certain patients receiving thiazide therapy. Insulin requirements in diabetic patients may be increased, decreased or unchanged. Latent diabetes mellitus may become manifested during thiazide administration.

Thiazide drugs may increase the responsiveness to tubocurarine.

The antihypertensive effects of the drug may be enhanced in the postsympathectomy patient.

Thiazides may decrease arterial responsiveness to norepinephrine. This diminution is not sufficient to preclude effectiveness of the pressor agent for therapeutic use.

If progressive renal impairment becomes evident, as indicated by a rising nonprotein nitrogen or blood urea nitrogen, a careful reappraisal of therapy is necessary with consideration given to withholding or discontinuing diuretic therapy.

Thiazides may decrease serum PBI levels without signs of thyroid disturbance.

ADVERSE REACTIONS:

A. Gastrointestinal system reactions: Anorexia, gastric irritation, nausea,

vomiting, cramping, diarrhea, constipation, jaundice (intrahepatic cholestatic jaundice), pancreatitis.

B. Central nervous system reactions: Dizziness, vertigo, paresthesias, headache, xanthopsia.

C. Hematologic reactions: Leukopenia, agranulocytosis, thrombocytopenia, aplastic anemia.

D. Dermatologic-Hypersensitivity reactions: Purpura, photosensitivity, rash, urticaria, necrotizing angitis (vasculitis) (cutaneous vasculitis).

E. Cardiovascular reaction: Orthostatic hypotension may occur and may be aggravated by alcohol, barbiturates, or narcotics.

F. Other: Hyperglycemia, glycosuria, hyperuricemia, muscle spasm, weakness, restlessness.

Whenever adverse reactions are moderate or severe, thiazide dosage should be reduced or therapy withdrawn.

USUAL DOSE: The average adult diuretic dose is 25 to 200 mg. per day. The average adult antihypertensive dose is 50 to 100 mg. per day. Therapy should be individualized according to patient response. This therapy should be titrated to gain maximal therapeutic response as well as the minimal dose possible to maintain that therapeutic response.

HOW SUPPLIED: Saluron (hydroflumethiazide 50 mg.): Bottles of 100.

Salutensin[®] • Salutensin-Demi[™]

(12) 10/27/75

(hydroflumethiazide, reserpine antihypertensive formulation)

For complete information consult Official Package Circular.

WARNING

This fixed combination drug is not indicated for initial therapy of hypertension. Hypertension requires therapy titrated to the individual patient. If the fixed combination represents the dosage so determined, its use may be more convenient in patient management. The treatment of hypertension is not static, but must be reevaluated as conditions in each patient warrant.

CONTRAINDICATIONS: Anuria, oliguria, active peptic ulceration, ulcerative colitis, severe depression or hypersensitivity to its component contraindicates the use of Salutensin.

WARNINGS: Small-bowel lesions (obstruction, hemorrhage, perforation and death) have occurred during therapy with enteric-coated formulation containing potassium, with or without thiazides. Such potassium formulations should be used with Salutensin only when indicated and should be discontinued immediately if abdominal pain, distention, nausea, vomiting or gastrointestinal bleeding occurs. Use cautiously, and only when deemed essential, in fertile, pregnant or lactating patients.

Use in pregnancy: Thiazides cross the placenta and can cause fetal or neonatal hyperbilirubinemia, thrombocytopenia, altered carbohydrate metabolism and possibly electrolyte disturbances. Fetal reactions may occur with reserpine during electroshock therapy; discontinue Salutensin 2 weeks before such therapy. Increased respiratory secretions, nasal congestion, cyanosis and anorexia may occur in infants born to reserpine treated mothers.

PRECAUTIONS: Azotemia, hypochloremia, hyponatremia, hypochloremic alkalosis and hypokalemia (especially with hepatic cirrhosis and corticosteroid therapy) may occur, particularly with pre-existing vomiting and diarrhea. Potassium loss may cause digitalis intoxication. Potassium loss responds to potassium-rich foods, potassium chloride or, if necessary, discontinuation of therapy. Serum ammonia elevation may precipitate coma in precomatose hepatic cirrhotics. Discontinue therapy 2 weeks before surgery or if myocardial irritability, progressive azotemia or severe depression occur. Exercise caution in patients with chronic uremia, angina pectoris, coronary thrombosis or extensive cerebral vascular disease or bronchial asthma and in those with a history of peptic ulceration or bronchial asthma; in postsympathectomy patients; in patients on quinidine; and in patients with gallstones, in whom biliary colic may occur. Patients who have diabetes mellitus or who are suspected of being pre-diabetic should be kept under close observation if treated with this agent.

ADVERSE REACTIONS: Hydroflumethiazide: Skin-rashes (including exfoliative dermatitis), skin photosensitivity, urticaria, necrotizing angitis, xanthopsia, granulocytopenia, aplastic anemia, orthostatic hypotension (potentiated with alcohol, barbiturates or narcotics), allergic glomerulonephritis, acute pancreatitis, liver involvement (intrahepatic cholestatic jaundice), purpura plus or minus thrombocytopenia, hyperuricemia, hyperglycemia, glycosuria, malaise, weakness, dizziness, fatigue, paresthesias, muscle cramps, skin rash, epigastric distress, vomiting, diarrhea and constipation. **Reserpine:** Depression, peptic ulceration, diarrhea, Parkinsonism, nasal stuffiness, dryness of the mouth, weight gain, impotence or decreased libido, conjunctival injection, dull sensorial deafness, glaucoma, uveitis, optic atrophy, and, with overdosage, agitation, insomnia and nightmares.

USUAL DOSE: 1 tablet b.i.d.

HOW SUPPLIED: Salutensin (hydroflumethiazide 50 mg., reserpine 0.125 mg.): Bottles of 100 and 1000.

Salutensin-Demi (hydroflumethiazide 25 mg., reserpine 0.125 mg.): Bottles of 100.

BRISTOL[™]

BRISTOL LABORATORIES
Div. of Bristol-Myers Company
Syracuse, N.Y. 13201

MC



Conduct with Pronestyl[®] Tablets

Procainamide Hydrochloride Tablets

The only procainamide in
sugar-coated, easy-to-swallow tablets



250 mg



375 mg



500 mg

available in 3 tablet strengths for easier dosage
adjustment — up or down — in all patients
produced under exacting quality control standards
by Squibb — numerous critical control tests from
raw material to finished product
offered only under the Squibb label — your assurance of
reliable, quality therapy for life-threatening arrhythmias
See following page for brief summary

PRONESTYL[®] TABLETS

Procainamide Hydrochloride Tablets

The prolonged administration of procainamide often leads to the development of a positive anti-nuclear antibody (ANA) test with or without symptoms of lupus erythematosus-like syndrome. If a positive ANA titer develops, the benefit/risk ratio related to continued procainamide therapy should be assessed. This may necessitate considerations of alternative anti-arrhythmic therapy.

DESCRIPTION: Pronestyl (Procainamide Hydrochloride) is the amide analogue of procaine hydrochloride and is available for oral administration as veneer-coated tablets providing 250 mg, 375 mg, and 500 mg procainamide hydrochloride.

CONTRAINDICATIONS: In patients with myasthenia gravis and where a hypersensitivity to procainamide exists; bear in mind cross sensitivity to procaine and related drugs. Should not be given to patients with complete atrioventricular heart block. Contraindicated in cases of second degree and third degree A-V block unless an electrical pacemaker is operative.

PRECAUTIONS: Evidence of untoward myocardial responses should be carefully watched for in all patients. In the presence of myocardial damage with atrial fibrillation or flutter, the ventricular rate may increase suddenly as the atrial rate is slowed; adequate digitalization reduces but does not abolish this danger. Ventricular tachysystole is particularly hazardous if myocardial damage exists.

The dislodgment of mural thrombi producing an embolic episode may occur in correcting atrial fibrillation due to the forceful contractions of the atrium.

Extreme caution is required in attempting to adjust the heart rate when ventricular tachycardia has occurred during an occlusive coronary episode or where the use of procainamide may result in additional depression of conduction and ventricular asystole or fibrillation as in second degree and third degree A-V block, bundle branch block, or severe digitalis intoxication.

Bear in mind when treating ventricular arrhythmias in patients with severe organic heart disease and ventricular tachycardia that complete heart block, which may be difficult to diagnose, may be present. Since asystole may result if the ventricular rate is significantly slowed without attainment of regular atrioventricular conduction, procainamide should be stopped and the patient re-evaluated.

In the presence of both liver and kidney damage, normal dosage may produce symptoms of overdosage—principally ventricular tachycardia and severe hypotension.

A syndrome resembling lupus erythematosus has been reported with oral maintenance procainamide therapy. Common symptoms are polyarthralgia, arthritis and pleuritic pain. Fever, myalgia, skin lesions, pleural effusion and pericarditis may also occur. Rare cases of thrombocytopenia or Coombs-positive hemolytic anemia, possibly related to this syndrome, have been

reported. Measure anti-nuclear antibody titers at regular intervals in patients on procainamide for extended periods of time or in whom symptoms suggestive of lupus-like reaction appear; in event of rising titer (anti-nuclear antibody) or clinical symptoms of LE, assess the benefit/risk ratio related to continued procainamide therapy (see boxed Warning). Steroid therapy may be effective if discontinuation of procainamide does not cause remission of symptoms. If the syndrome develops in a patient with recurrent life-threatening arrhythmias not otherwise controllable, steroid-suppressive therapy may be used concomitantly with procainamide.

ADVERSE REACTIONS: Hypotension is rare with oral administration. Serious disturbances of cardiac rhythm such as ventricular asystole or fibrillation are more common with I.V. administration.

Large oral doses may sometimes produce anorexia, nausea, urticaria, and/or pruritus.

A syndrome resembling lupus erythematosus has been reported in patients on oral maintenance therapy (see Precautions). Reactions consisting of fever and chills have been reported, including a case with nausea, vomiting, abdominal pain, acute hepatomegaly, and a rise in serum glutamic oxaloacetic transaminase following single doses of the drug. Agranulocytosis has been occasionally reported following repeated use of the drug, and deaths have occurred. Therefore, routine blood counts are advisable during maintenance procainamide therapy; and the patient should be instructed to report any soreness of the mouth, throat or gums, unexplained fever or any symptoms of upper respiratory tract infection. If any of these symptoms should occur and leukocyte counts indicate cellular depression, procainamide therapy should be discontinued and appropriate treatment should be instituted immediately. Bitter taste, diarrhea, weakness, mental depression, giddiness, psychosis with hallucinations, and hypersensitivity reactions such as angioneurotic edema and maculopapular rash have been reported.

For full prescribing information, consult package insert.

HOW SUPPLIED: Pronestyl Tablets (Procainamide Hydrochloride Tablets) providing 250 mg, 375 mg, and 500 mg procainamide hydrochloride are available in bottles of 100 and Unimatic[®] single-dose packaging in cartons of 100. The 250 mg and 500 mg tablets are also available in bottles of 1000.



'The Priceless Ingredient of every product is the honor and integrity of its maker.'[™]

contains no aspirin

tablets
Darvocet-N[®] 100 (IV)

100 mg. Darvon-N[®] (propoxyphene napsylate)
650 mg. acetaminophen



700565

Additional information available
to the profession on request from
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Indianapolis, Indiana 46206

Eli Lilly and Company, Inc.
Carolina, Puerto Rico 00630

more
life...



with symptomatic relief of moderate anxiety with depression

Rapid relief of the symptoms of moderate anxiety in many patients

The tranquilizer component alleviates symptoms of anxiety and agitation within a few days, without apparent dulling of mental acuity. Hypnotic effects from the tranquilizer component appear to be minimal, particularly in patients permitted to remain active. However, TRIAVIL may impair mental and/or physical abilities required for the performance of hazardous tasks.

Highly effective antidepressant action

The antidepressant component relieves symptoms of depression such as poor concentration and feelings of hopelessness as well as early morning awakening; adequate relief of symptoms may take a few weeks or even longer.

Increased activity potential often results from symptomatic relief

As the symptoms of anxiety and depression respond to TRIAVIL, many patients may show renewed interest in family and recreational activities and are able to function more effectively at work.

More prescribing convenience

For optimal flexibility there are now five tablet strengths of TRIAVIL for ease of dosage adjustment. For initial management of patients with moderate anxiety and depression, one TRIAVIL[®] 2-25, containing 2 mg perphenazine and 25 mg amitriptyline HCl, t.i.d. may often be adequate. TRIAVIL[®] 4-50, containing 4 mg perphenazine and 50 mg amitriptyline HCl, provides b.i.d. convenience for those patients needing the larger total daily dose of 8 mg perphenazine and 100 mg amitriptyline HCl as initial or maintenance therapy.

Treatment with TRIAVIL—a balanced view:

TRIAVIL is contraindicated in CNS depression from drugs, in the presence of evidence of bone marrow depression, and in patients hypersensitive to phenothiazines or amitriptyline. It should not be used during the acute recovery phase following myocardial infarction or in patients who have received an MAOI within two weeks. Patients with cardiovascular disorders should be watched closely. Not recommended in children or during pregnancy. TRIAVIL may impair mental and/or physical abilities required for performance of hazardous tasks and may enhance the response to alcohol. Antiemetic effect may obscure toxicity due to overdosage of other drugs or mask other disorders. The possibility of suicide in depressed patients remains until significant remission occurs. Such patients should not have access to large quantities of the drug. Hospitalize as soon as possible any patient suspected of having taken an overdose.

For moderate
anxiety with depression

dual-action[®]
Triavil

containing perphenazine and amitriptyline HCl

MSD
MERCK
SHARP
DOHME

*Please see following page
for a brief summary
of prescribing information.*

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More dosage strengths
than any other formulation containing
a tranquilizer and an antidepressant

Dual-action Triavil®

containing perphenazine and amitriptyline HCl

Available:

TRIAVIL® 2-25: Each tablet contains
2 mg perphenazine and 25 mg amitriptyline HCl
TRIAVIL® 2-10: Each tablet contains
2 mg perphenazine and 10 mg amitriptyline HCl
TRIAVIL® 4-50: Each tablet contains
4 mg perphenazine and 50 mg amitriptyline HCl
TRIAVIL® 4-25: Each tablet contains
4 mg perphenazine and 25 mg amitriptyline HCl
TRIAVIL® 4-10: Each tablet contains
4 mg perphenazine and 10 mg amitriptyline HCl

CONTRAINDICATIONS: Central nervous system depression from drugs (barbiturates, alcohol, narcotics, analgesics, antihistamines); evidence of bone marrow depression, known hypersensitivity to phenothiazines or amitriptyline. Should not be given concomitantly with a monoamine oxidase inhibitor since hyperpyretic crises, severe convulsions, and deaths have occurred from such combinations. When used to replace a monoamine oxidase inhibitor, allow a minimum of 14 days to elapse before initiating therapy with TRIAVIL. Therapy should then be initiated cautiously with gradual increase in dosage until optimum response is achieved. Not recommended for use during acute recovery phase following myocardial infarction.

WARNINGS: TRIAVIL should not be given concomitantly with guanethidine or similarly acting compounds since TRIAVIL may block the antihypertensive action of such compounds. Use cautiously in patients with history of urinary retention, angle-closure glaucoma, increased intraocular pressure, or convulsive disorders. Dosage of anticonvulsive agents may have to be increased. In patients with angle-closure glaucoma, even average doses may precipitate an attack. Patients with cardiovascular disorders should be watched closely. Tricyclic antidepressants, including amitriptyline HCl, have been reported to produce arrhythmias, sinus tachycardia, and prolongation of conduction time, particularly in high doses. Myocardial infarction and stroke have been reported with tricyclic antidepressant drugs. Close supervision is required for hyperthyroid patients or those receiving thyroid medication. May impair mental and/or physical abilities required for performance of hazardous tasks, such as operating machinery or driving a motor vehicle. In patients who use alcohol excessively, potentiation may increase the danger inherent in any suicide attempt or overdosage. Not recommended in children or during pregnancy.

PRECAUTIONS: Suicide is a possibility in depressed patients and may remain until significant remission occurs. Such patients should not have access to large quantities of this drug.

Perphenazine: Should not be used indiscriminately. Use with caution in patients who have previously exhibited severe adverse reactions to other phenothiazines. Likelihood of some untoward actions is greater with high doses. Closely supervise with any dosage. The antiemetic effect of perphenazine may obscure signs of toxicity due to overdosage of other drugs or make more difficult the diagnosis of disorders such as brain tumor or intestinal obstruction. A significant, not otherwise explained, rise in body temperature may suggest individual intolerance to perphenazine, in which case discontinue.

If hypotension develops, epinephrine should not be employed, as its action is blocked and partially reversed by perphenazine. Phenothiazines may potentiate the action of central nervous system depressants (opiates, analgesics, antihistamines, barbiturates, alcohol) and atropine. In concurrent therapy with any of these, TRIAVIL should be given in reduced dosage. May also potentiate the action of heat and phosphorous insecticides. There is sufficient experimental evidence to conclude that chronic administration of antipsychotic drugs which increase prolactin secretion has the potential to induce mammary neoplasms in rodents under the appropriate conditions. There are recognized differences in the physiological role of prolactin between rodents and humans. Since there are, at present, no adequate epidemiological studies, the relevance to human mammary cancer risk from prolonged exposure to perphenazine and other antipsychotic drugs is not known.

Amitriptyline: In manic-depressive psychosis, depressed patients may experience a shift toward the manic phase if they are treated with an antidepressant. Patients with paranoid symptomatology may have an exaggeration of such symptoms. The tranquilizing effect of TRIAVIL seems to reduce the likelihood of this effect. When amitriptyline HCl is given with anticholinergic agents or sympathomimetic drugs, including epinephrine combined with local anesthetics, close supervision and careful adjustment of dosages are required. Paralytic ileus may occur in patients taking tricyclic antidepressants in combination with anticholinergic-type drugs.

Caution is advised if patients receive large doses of ethchlorvynol concurrently. Transient delirium has been reported in patients who were treated with 1 g of ethchlorvynol and 75-150 mg of amitriptyline HCl.

Amitriptyline HCl may enhance the response to alcohol and the effects of barbiturates and other CNS depressants.

Concurrent administration of amitriptyline HCl and electroshock therapy may increase the hazards associated with such therapy. Such treatment should be limited to patients for whom it is essential. Discontinue several days before elective surgery if possible. Elevation and lowering of blood sugar levels have both been reported. Use with caution in patients with impaired liver function.

ADVERSE REACTIONS: Similar to those reported with either constituent alone. **Perphenazine:** Extrapyramidal symptoms (opisthotonus, oculogyric crisis, hyperreflexia, dystonia, akathisia, acute dyskinesia, ataxia, parkinsonism) have been reported and can usually be controlled by the concomitant use of effective antiparkinsonian drugs and/or by reduction in dosage, but sometimes persist after discontinuation of the phenothiazine.

Tardive dyskinesia may appear in some patients on long-term therapy or may occur after drug therapy with phenothiazines and related agents has been discontinued. The risk appears to be greater in elderly patients on high-dose therapy, especially females. Symptoms are persistent and in some patients appear to be irreversible. The syndrome is characterized by rhythmical involuntary movements of the tongue, face, mouth, or jaw. Involuntary movements of the extremities sometimes occur. There is no known treatment for tardive dyskinesia. Antiparkinsonian agents usually do not alleviate the symptoms. It is advised that antipsychotic agents be discontinued if the above symptoms appear. If treatment is reinstituted, or dosage of the particular drug increased, or another drug substituted, the syndrome may be masked. Fine vermicular movements of the tongue may be an early sign of the syndrome. The full-blown syndrome may not develop if medication is stopped when lingual vermiculation appears.

Other side effects are skin disorders (photosensitivity, itching, erythema, urticaria, eczema, up to exfoliative dermatitis); other allergic reactions (asthma, laryngeal edema, angioneurotic edema, anaphylactoid reactions); peripheral edema, reversed epinephrine effect, hyperglycemia; endocrine disturbance (lactation, galactorrhea, gynecomastia, disturbances of menstrual cycle); altered cerebrospinal fluid proteins; paradoxical excitement, hypertension, hypotension, tachycardia, and ECG abnormalities (quinidine-like effect), reactivation of psychotic processes; catatonic-like states; autonomic reactions, such as dry mouth or salivation, headache, anorexia, nausea, vomiting, constipation, obstipation, urinary frequency or incontinence, blurred vision, nasal congestion, and a change in pulse rate; other adverse reactions reported with various phenothiazine compounds, but not with perphenazine, include grand mal convulsions, cerebral edema, polyphagia, pigmentary retinopathy, photophobia, skin pigmentation, and failure of ejaculation.

The phenothiazine compounds have produced blood dyscrasias (pancytopenia, thrombocytopenic purpura, leukopenia, agranulocytosis, eosinophilia) and liver damage (jaundice, biliary stasis).

Pigmentation of the cornea and lens has been reported to occur after long-term administration of some phenothiazines. Although it has not been reported in patients receiving TRIAVIL, the possibility that it might occur should be considered.

Hypnotic effects, lassitude, muscle weakness, and mild insomnia have also been reported.

Amitriptyline: Note: Listing includes a few reactions not reported for this drug, but which have occurred with other pharmacologically similar tricyclic antidepressant drugs and must be considered when amitriptyline is administered. **Cardiovascular:** Hypotension, hypertension, tachycardia; palpitation; myocardial infarction; arrhythmias, heart block, stroke. **CNS and Neuromuscular:** Confusional state, disturbed concentration, disorientation, delusions; hallucinations; excitement; anxiety; restlessness; insomnia; nightmares; numbness, tingling, and paresthesia of the extremities; peripheral neuropathy; incoordination; ataxia; tremors; seizures; alteration in EEG patterns; extrapyramidal symptoms; tinnitus; syndrome of inappropriate ADH (antidiuretic hormone) secretion. **Anticholinergic:** Dry mouth, blurred vision, disturbance of accommodation; increased intraocular pressure; constipation; paralytic ileus; urinary retention; dilatation of urinary tract. **Allergic:** Skin rash; urticaria, photosensitization; edema of face and tongue. **Hematologic:** Bone marrow depression including agranulocytosis, leukopenia; eosinophilia; purpura, thrombocytopenia. **Gastrointestinal:** Nausea; epigastric distress; vomiting, anorexia, stomatitis; peculiar taste, diarrhea; parotid swelling; black tongue. Rarely hepatitis (including altered liver function and jaundice). **Endocrine:** Testicular swelling and gynecomastia in the male, breast enlargement and galactorrhea in the female; increased or decreased libido; elevated or lowered blood sugar levels. **Other:** Dizziness, weakness, fatigue, headache; weight gain or loss; increased perspiration, urinary frequency, mydriasis; drowsiness; alopecia. **Withdrawal Symptoms:** Abrupt cessation after prolonged administration may produce nausea, headache, and malaise. These are not indicative of addiction.

OVERDOSAGE: All patients suspected of having taken an overdosage should be admitted to a hospital as soon as possible. Treatment is symptomatic and supportive. However, the intravenous administration of 1-3 mg of physostigmine salicylate is reported to reverse the symptoms of tricyclic antidepressant poisoning. Because physostigmine is rapidly metabolized, the dosage of physostigmine should be repeated as required particularly if life-threatening signs such as arrhythmias, convulsions, and deep coma recur or persist after the initial dosage of physostigmine. On this basis, in severe overdosage with perphenazine-amitriptyline combinations, symptomatic treatment of central anticholinergic effects with physostigmine salicylate should be considered.

J8TR31 (DC661321)

For more detailed information, consult your MSD Representative or see full Prescribing Information, Merck Sharp & Dohme, Division of Merck & Co., INC., West Point, Pa. 19486

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Charlotte Treatment Center

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SPECIAL ARTICLE

Medical Education at Chapel Hill, The First 100 Years Part II

L. William deBerniere MacNider, Dean, 1937-1940

Dr. MacNider succeeded Dr. Charles S. Mangum as dean in 1937. He was a well-known investigator in the field of renal physiology and pathology and enjoyed national and international recognition as a scientist, with a reputation beyond that of any other medical faculty member. He was an extremely capable and respected teacher.

Upon assuming the deanship he appointed Dr. W. Reece Berryhill assistant dean in charge of student affairs with responsibility for admissions, guidance and counseling and the transferring of students to four-year schools. These duties Dr. Berryhill assumed in addition to directing the clinical courses offered in the second year and the student health service.

The third effort to expand the School of Medicine to a four-year school occurred during Dr. MacNider's tenure as dean.

The General Assembly of 1937 passed a joint resolution calling upon the governor to appoint a commission "to study, consider, and report upon a plan for the es-

tablishment in the State of a medical school affording the course of study required to entitle persons to apply for license to practice medicine," together with a draft of proposed legislation in connection therewith to the 1939 session of the General Assembly. A commission was appointed by Governor Clyde R. Hoey and by late autumn of 1938 the following were among recommendations the commission made to the General Assembly:

—A four-year degree granting medical school should be established in the state;

—The school should be part of the University of North Carolina and it should be a part of and an addition to the present plan;

—A 300-bed teaching hospital should be built to serve several urgent needs in the state, and the institution should be established as soon as possible.

At a special meeting of the commission November 6, 1938, O. M. Mull, a member of the commission, stated he had information that a substantial sum of money was available from an unnamed donor for the university to supplement a state appropriation "to build a medical school and endow it, provided it was built in a designated city in the state," as a unit of the consolidated university.

Later conversations between Dr. Berryhill and President Frank Porter Graham supported the notion that Charles Woollen, university comptroller, was approached by a member of the Gray family to discuss the possible interest of the university in accepting a proposal to develop the medical school in Winston-Salem, as the recipient of funds of the Bowman Gray Foundation. Apparently, this informa-



Dr. William deB. MacNider

Condensed from the book "Medical Education at Chapel Hill, The First 100 Years," by W. Reece Berryhill, M.D., William B. Blythe, M.D., and Isaac Hall Manning, M.D., N.C. Medical Alumni Association, Chapel Hill, 1979.

tion was presented to President Graham to determine what Dr. Graham's attitude would be toward establishing the university school of medicine on a site away from Chapel Hill — without giving him specific information about the source or amount of funds, or the designated location. Dr. Graham indicated in general his opposition to such a plan on the basis of its questionable educational soundness. However, he requested that he be kept informed regarding the details of any proposal or subsequent developments. President Graham received no further report until Mr. Mull's announcement to the Hoey Commission.

Since there was no exploration of the information presented by Mr. Mull by any official university representatives, the opportunity subsequently must have been offered to Wake Forest College, because within a relatively short time the Bowman Gray School of Medicine became a reality.

The university was severely criticized for not accepting the offer from the Gray family. It was felt that this probably was the end of any possible hope for the expansion of the two-year medical school.

In 1940, Dr. MacNider resigned the deanship after four years of very able and productive leadership. He continued as Kenan research professor of pharmacology and chairman of the department until 1943, when because of failing health he was forced to resign the chairmanship. He continued his research, however, and taught a course in the history of medicine for second year medical students until physical disability forced his retirement in 1950 after 48 years' service. Dr. MacNider died in June, 1951.

W. Reece Berryhill, Dean, 1941-1964

Following Dr. MacNider's resignation as dean, Robert B. House, dean of administration and later chancellor, and President Frank Porter Graham asked Dr. Walter Reece Berryhill to assume the position of acting dean during 1940-1941. Thus began the second longest deanship in the school's



Dr. W. Reece Berryhill

history; Dr. Berryhill stayed on for 24 years (Dr. Manning's tenure as dean had extended for 28 years) and guided the school through its most important and productive time in its history.

In the fall of 1943, at the dean's request, President Graham invited several influential alumni to meet in Chapel Hill to discuss the soundness of the movement to develop a four-year school.

The unanimous opinion of the medical advisors was that the university should assume leadership immediately for planning expansion of the School of Medicine and for seeking state aid for the construction of hospitals in rural areas or in areas where hospital facilities were inadequate or already too outmoded to meet the demands of medical care.

In order to prepare a program which might be discussed with Governor Broughton at the Board of Trustees meeting in January, 1944, President Graham appointed Dr. Paul McCain chairman of a committee to develop a proposal to submit to the trustees. The dean of the medical school, at the request of Dr. McCain, was appointed by President Graham to represent the university and to act as its secretary on the committee.

Before the meeting of the trustees on January 31, Governor Broughton requested Dr. McCain's committee

to meet with him and present the general objectives of the proposed statewide health program which the committee had formulated. These objectives were discussed at the meeting and were accepted by Governor Broughton. The proposal became known as "the Governor's proposal for the extension of medical care and hospital services in North Carolina."

The trustees unanimously approved the governor's proposal and authorized the appointment of a commission to study all aspects involved and charged it with submitting recommendations for implementing the goals to the General Assembly in 1945. Immediately Governor Broughton appointed Dr. Clarence Poe chairman of this new Hospital and Medical Care Commission. By October, 1944, the commission adopted its report for submission to Governor Broughton and appealed to the people of the state for support in its implementation.

While the majority of the commission approved the recommendation and worked steadfastly for the next two years to bring about favorable action by the 1945-1946 legislatures which would implement them, there was far from unanimity among its members on the two major issues — state funds for hospital construction in communities deficient in hospital beds and the expansion of the University School of Medicine with the construction of a university hospital at Chapel Hill.

The years 1945-1947 were perhaps the most important in the history of the state with respect to the development of hospital facilities and medical care in North Carolina. By the same token, this was perhaps the most crucial period in the long life of the University School of Medicine.

The General Assembly of 1946 approved legislation which:

- Established the North Carolina Medical Care Commission;

- Appropriated funds for loans to students in medical schools in the state who would agree to practice in rural areas for the number of years over which funds were borrowed

- Authorized the trustees of the

University to expand the medical school to a four-year school, but with an amendment which requested that further study by the Rockefeller Foundation or comparable out-of-state experts on the best location for the expanded school (advantages of a city for its location over those of the campus at Chapel Hill) before the authorization could be implemented. This amendment was introduced in the House of Representatives of the 1955 General Assembly by a representative from Guilford County and in the Senate by a representative from Mecklenburg. It resulted in the appointment by the North Carolina Medical Care Commission of a national committee, headed by Dr. W. T. Sanger, president of the Medical College of Virginia, whose task it was to study the question of the best location for the expanded school and proposed hospital. This charge was enlarged — on the insistence of those whose members of the Medical Care Commission who opposed the school's expansion, led by Dr. W. S. Rankin — to include a study also for the need for an expanded school. The commission was officially known as the National Committee for the Medical School Survey, but it became more familiarly called the Sanger Commission after its chairman.

After more than six months of study, a majority of the members of the commission in essence agreed with the recommendation of the Hospital and Medical Care Commission, with some broadening of the function of the medical school and a well-stated emphasis on the importance of regionalization in the delivery of medical care in the future. It was recommended that the School of Medicine at the University be expanded and that it be located on the university campus in Chapel Hill.

There was yet one more encounter before Dr. Berryhill and others concerned could be totally absorbed in planning for the medical school in Chapel Hill. This was an exploration of cooperation with the Moses Cone Hospital in 1947. After much discussion between the trustees of Cone Hospital and a

medical school committee appointed by the governor, it was decided by the executive committee of the board of trustees that a merger between Moses Cone Hospital and the University School of Medicine which had been suggested not be recommended.

Dr. Berryhill can be credited for the wisdom shown in picking the original North Carolina Memorial Hospital director and department chairmen. Dr. Robert Cadmus was made director of the hospital. Dr. Nathan A. Womack, an alumnus of the university and medical school, was professor of surgery. Dr. Charles H. Burnett was professor and chairman of medicine. Dr. George C. Ham was professor and chairman of psychiatry. Dr. William L. Flemming was professor and chairman of preventive medicine. Dr. Ernest H. Wood was professor and chairman of radiology. Dr. Edward C. Currin, Jr., was professor and chairman of pediatrics. And, Robert A. Ross was professor and chairman of obstetrics and gynecology. These distinguished chairmen, coupled with those of basic science departments who were already in Chapel Hill, along with Dr. Berryhill, can be credited for the success of the early years of the four-year medical school and North Carolina Memorial Hospital.



Dr. Isaac M. Taylor

The Decade 1954-1964

This decade was a highly productive period for the university medical center. Continuing development and strengthening of central activities were accompanied by improvement in the quality of instruction and the quality of patient care, as well as greater involvement and productivity in research activities by the entire faculty.

With gradually increasing state appropriations for the operational budgets of both the medical school and Memorial Hospital, and especially with the growth of federal support for research and training, new faculty members were added in all departments. The generally high standards of excellence which the faculty brought to the school in exercising the performance of their teaching, research, and patient care duties has been demonstrated by the large number of faculty who have achieved national recognition and membership in scholarly and professional organizations.

Although there were many problems during the years 1954-1964, the decade could be characterized as a period of tremendous growth and increasing recognition of the school, nationally and internationally.

In the autumn of 1962, Dean Berryhill informed President Friday and Chancellor Aycock of his intention to resign as dean at the end of the 1963-1964 academic year, two years in advance of the mandatory retirement age for administrative officers in the university. There is no doubt that Dr. Berryhill had been the most influential dean in the school's history.

Dr. Berryhill retired from the university in 1973, but he continued to be an advisor and friend to faculty, students, and the leadership of the School of Medicine — indeed, the university. His entire professional life had been devoted to improving medical education and medical care in North Carolina. Dr. Berryhill's accomplishments were recognized by his much beloved university when he was awarded the honorary degree of Doctor of Sci-

ence at commencement exercises in 1976. He died Jan. 1, 1979.

**Dr. Isaac M. Taylor, Dean,
1964-1971**

In September, 1964, Dr. Isaac M. Taylor, professor of medicine, succeeded to the deanship. He had been Dr. Charles Burnett's first faculty appointee in the department of medicine in 1951 and had been an active and valuable member of the faculty. A former Markle Scholar in the medical sciences, he had become interested in medical illustration and had served as special assistant to Dean Berryhill in 1962-1964 as coordinator of planning for the new ambulatory clinic addition to the hospital.

During the seven years of his deanship occurred the greatest expansion of physical facilities,

growth in faculty, student enrollment and academic programs in the medical school's history. To a large degree, this was made possible by the increasing availability of federal funds for construction of facilities, support of research activities, and operating budgets of schools of the health sciences. These funds supplemented by generous appropriations from the North Carolina General Assembly because of the concern for improving health care. As a result, the school made significant progress in medical education and in meeting health care needs of North Carolina.

Dr. Taylor's understanding of the complexities of modern academic medical science, its relationship to the parent university, and to the state which supports it was the key to the success of his term as dean.

He worked with the university administration and with state political leaders to establish an understanding of the potential of the school for service to the state and of what was required for the full realization of that potential. His understanding of the social and political forces in North Carolina during the decade of the '60s enabled him to create an atmosphere in which these developments were possible and in which growth of the School of Medicine continued until the present.

In September, 1970, Dr. Taylor submitted his resignation effective June 30, 1971.

**Dr. Christopher C. Fordham, III,
Dean, 1971-1979**

In September, 1971, Dr. Christopher C. Fordham, III, vice pres



The UNC medical faculty, circa 1945. (See legend on next page.)

ent and Dean of the Medical College Georgia School of Medicine, succeeded Dr. Taylor in the deanship, becoming the ninth dean of the School of Medicine.

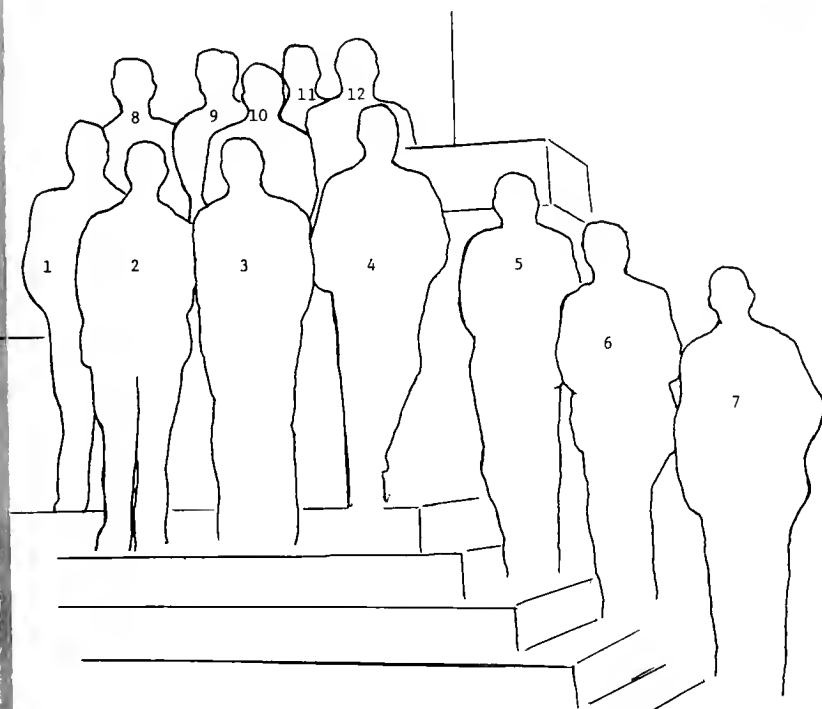
As a member of the resident staff in medicine beginning in 1953, except for service in the Air Force and a short period in private practice, Dr. Fordham had served with increasing effectiveness from instructor in 1958 to professor of medicine in 1968. In addition, he was associate dean for clinical sciences under Dr. Taylor. In 1969, he became professor of medicine, vice president and dean of medicine at the Medical College of Georgia. His return to the University of North

Carolina met with enthusiastic support from faculty and alumni.

The medical school's history under Dean Fordham's leadership can be characterized as a time of exciting and balanced growth. In 1970-1971, the budget for the School of Medicine was \$23,717,194 and by 1976-77 it had almost tripled to \$62,100,000; the fulltime faculty had increased from 318 to 534, and the medical student body from 337 to 559. During this time the school has increasingly met its responsibility to the citizenry of North Carolina as a responsible and responsive state university medical school. At the same time it has increased its national and interna-



Dr. Christopher C. Fordham III



1 James C. Andrews, Ph.D., Professor of Biochemistry and Nutrition

2 James B. Bullitt, M.D., Professor of Pathology

3 Daniel A. MacPherson, Ph.D., Professor of Bacteriology

4 Russell L. Holman, M.D., Professor of Pathology

5 W. Critz George, Ph.D., Professor of Anatomy

6 William DeB. MacNider, M.D., Professor of Pharmacology (Dean 1937-40)

7 Charles S. Mangum, M.D., Professor of Anatomy (Dean 1933-36)

8 Granvil C. Kyker, Ph.D., Associate Professor of Biochemistry and Nutrition

9 Edward C. Pliske, Ph.D., Associate Professor of Anatomy

10 H. Ward Ferrill, Ph.D., Associate Professor of Physiology

11 Frank N. Low, Ph.D., Assistant Professor of Anatomy

12 W. Reece Berryhill, M.D., Professor of Medicine (Dean 1941-64)

tional stature as a citadel of scholarship and research. Achieving subtle, delicate and difficult balance can doubtless be attributed in part to Dean Fordham's clear understanding of the crucial importance of each of these elements as well as to his ability to attract first-rate leadership and to marshal their efforts in achieving the balance.

It is particularly remarkable that scholarship and research did not decline during the last decade, because the major national emphasis has been on service-related activities and consumerism, and things of the mind — particularly in the area of biomedical science — have become suspect. In the summer of 1978, Dean Fordham announced that he was resigning the deanship effective June, 1979; however, he is to continue in the role of vice chancellor for the division of health sciences, a position to which he was appointed during the winter of 1978.

Dr. Fordham further announced that he would be taking a six-month leave of absence and that during this time Dr. William Easterling, who had been vice dean, would become the acting dean.

At present, a search committee is seeking Dr. Fordham's successor.

Thus, the first 100 years of medical education in Chapel Hill comes to a close.

Hospice in North Carolina Background and Unanswered Questions

Bill Griffen, M.D., and Dan Blazer, M.D.

ABSTRACT The formation of Hospice of North Carolina has brought to the state a new dimension in medical care. The principles of Hospice are thought by some to challenge traditional medical practice. To facilitate a more advantageous discussion, questions about the history of Hospice, the principles and practice of Hospice in other settings, its acceptance by patient and community, and its integration into existing health care systems are addressed. If Hospice is to become distinctive and useful in North Carolina, it must interact with present community health resources and the desires of patients, their families and society as a whole.

THE formation of Hospice of North Carolina, Inc., has brought to the state a new dimension in medical care. The principles of Hospice are thought by some to challenge traditional medical practice, and much discussion can be expected both inside and outside the medical community. Health care providers need to discuss the advantages and disadvantages of Hospice in an open forum using a firm base of knowledge. To facilitate this discussion, questions about the history of Hospice, the principles

and practice of Hospice in other settings, its acceptance by patient and community, and its integration into the existing health care system are addressed in this paper.

The History of Hospice

In the Middle Ages, a hospice was a refuge for travelers. Hospice still means refuge, but now it is a refuge for the mortally ill as they travel toward death. The concept of Hospice as an approach to patient care was developed in England. St. Christopher's was founded in 1967 in London to put basic principles of care for the dying back into society and the health system.¹ Though originally privately endowed, it is now partially supported by the National Health Service.² While St. Christopher's began as an inpatient facility for people with terminal cancer and intractable pain, home care was added as patients became well enough to leave the facility temporarily. Home-based services included monitoring medications, assessing a patient's level of activity, facilitating catharsis of the patient and his family, and coordinating delivery of services.³ When the patient and/or his family cannot cope at home, the patient returns to St. Christopher's rather than being admitted to a hospital.

Hospices in North America are in various stages of development. For

example, the program in New Haven, Connecticut, originally sponsored by the National Cancer Institute, has provided only home care, though an inpatient facility is planned. Inpatient care is provided in hospitals by physicians cooperating with the Hospice team.⁴⁻⁶ St. Luke's Hospital in New York City has a Hospice team which follows several patients on different wards in addition to delivering home care and outpatient service at the hospital.⁷ The Royal Victoria Hospital in Montreal maintains a Palliative Care Unit as a separate ward, using Hospice principles and providing outpatient follow-up.⁸

The board of directors of Hospice of North Carolina, Inc., works with groups in Winston-Salem, Charlotte and the Raleigh-Durham-Chapel Hill area.⁹ Though still in the planning stages, Hospice of North Carolina seems to be shaping itself into a central consulting body with goals of mass education, stimulation of public and professional interest and assistance to communities in establishing workable Hospice programs (with an outpatient orientation initially).⁹⁻¹⁰ Hospice may be defined in various ways by different North Carolina communities.

Hospice Today

The goal of Hospice is to facilitate for the terminally ill and their families the natural process of dying and to insure that death is as free

From the Center for the Study of Aging and Human Development, Duke University Medical Center, Durham, N.C. 27710.
Reprint requests to Dr. Blazer.

ossible from physical, emotional, social and/or spiritual suffering.^{2,11-13} In other words, Hospice is dedicated to enhancing the quality of life at its end. Continuity of care, the integration of services, and comprehensiveness are aspects to be considered in meeting these goals.³ The care-giving within the therapeutic community is central to the realization of these purposes. Members of the team are physicians, nurses, chaplains, social workers and mental health specialists.^{2,4-13}

An initial consideration of the team is the relief of physical pain.⁵ When pain is reduced in a dying patient, anxiety and fear are tempered and the other aspects of dying,^{14,15} such as emotional distress (fear and anxiety, loneliness, depression, hurt and/or anger),^{13,16} social isolation (being afraid of a lonely death),¹³ and spiritual anguish (confronting such existential questions as, "Why is this happening to me?" and "What will happen to me?")^{10,17} can be addressed.

Cicely Saunders suggests that the pharmacological treatment of pain and other symptoms, such as nausea, be implemented by using a combination of medications on a regular rather than expedient basis.^{2,12-13,18} This idea is not new (it is also recommended for the treatment of chronic pain syndromes) but often it is not the usual practice on general hospital wards. Judicious use of psychotropic medications, psychotherapy and emotional support are treatments of emotional distress. Social isolation is eased by the encouragement of frequent interaction with staff and family thus providing the opportunity to finish the "business of life," such as saying goodbye.^{13,16,19} Hospice grew within a Judeo-Christian heritage and the chaplain has traditionally played a major role in dealing with spiritual anguish. Indirectly, as a consultant, the chaplain fulfills the spiritual needs of the other members of the team.¹³ Time, skill as a listener, and independence from traditional medical roles and responsibilities enable the chaplain to relate to the patient at a different level, a re-

lationship which may facilitate confession, communion and prayer, thus easing the process of dying.^{17,20}

Hospice can be carried out in a number of settings, including private homes, long-term care facilities, free-standing inpatient facilities, special units in hospitals or throughout a general hospital. A number of free-standing inpatient facilities that coordinate a continuum of care for dying patients have been popularly designated as "Hospice" facilities. Hospice, however, is a concept of health care, not a place.

The family is central to the therapeutic community in the Hospice approach. Visiting hours without age restrictions are emphasized. In fact, the entire family is the patient of Hospice.^{4,21} Family members are encouraged to share the emotional, social and spiritual aspects of dying with the patient. Bereaved families are also followed for variable periods after the death of their loved one (as needs dictate).^{2,20} For patients without families, the Hospice community provides a surrogate family as each member of the professional (and even non-professional) staff contributes to a secure and supportive environment.⁴

Patient Acceptance

In Britain, reports of acceptance are impressive. A person discouraged and angry with hospital care is often at ease within 24 hours of entering the Hospice.¹⁹ One reason for this acceptance may be the availability of staff for individual care and attention. Indeed, British Hospices often have a 1:1 patient to staff ratio.⁵ Even with the availability of volunteer staff, can such patient-staff ratios be realized in North Carolina? Volunteers require considerable supervision and training, which may prove quite costly. Yet numbers alone do not ensure success. The quality of patient-staff interaction, such as shared meals and socializing among staff, patient and family in an atmosphere of trust,^{7,22} should contribute to the natural environment of Hospice.

In North Carolina, Hospice will

probably develop a home care program at the outset. Will the dying, if given a choice, choose to die at home? Will family members accept the dying in the home, given the support of Hospice? Admissions criteria generally mentioned in American programs are illness with a limited prognosis for survival; consent of the personal physician; geographic proximity; and the presence of a primary caretaker in the home.^{5,9} Yet other factors must be considered. The family, for example, may have limits to its capacity to care for a dying member. The primary caretaker could be stressed to the point that the barrier between patient and family is actually increased. Thus far, the response has been positive in American home care programs for those selected families participating, with 65% of patients in the New Haven Hospice dying in their homes.⁷ Unfortunately we know little about home care costs, benefits, relationship to day care and tolerance by the family, although valuable data are being accumulated by many visiting nurse services.

Denial is an almost constant defense in the grieving process and fluctuates with acceptance of death. The very admission to a Hospice program may break down the dying patient's psychological defenses. In a traditional hospital, the staff will frequently encourage the patient's denial and are relieved that a full disclosure is not demanded from them.^{8,23,24} Home-based care may actually support the defense of denial, especially in the patient who refuses to enter the hospital.³ On the other hand, the Hospice policy of openness, honesty and careful listening may reveal how much the patient desires to know about his disease, or how much he will tolerate.²⁵⁻²⁷ Denial is appropriate at some stages of adjustment, but deception or dishonesty by others can produce emotional distress and social isolation.^{9,28}

Community Acceptance

For Hospice to function, active community support is needed. For example, in the New Haven program the ratio of volunteers to paid

staff is 12:1.⁵ Initial acceptance has often been gradual, but later it becomes more substantial.^{4,7} With the local implementation envisioned by Hospice of North Carolina, community commitment and leadership will be vital. Many relevant services may already be available, including public health and social services, visiting nurse and home health programs, extended care facilities, and, especially, religious and independent volunteer groups providing support for the dying. Hospice must not merely coexist, it must coordinate these other services. It is conceivable that the Hospice team could supplement and expand existing services within a community rather than become an additional service provider.

Perhaps even more important is acceptance by community-based physicians (those who make referrals and retain contact with patients after admission to Hospice). Some physicians fear that Hospice will draw patients away from their family doctors,²⁹ and American Hospices have, at times, received spotty support from the medical community.⁷ Altered approaches to health care are rarely accepted quickly, especially when they originate outside the traditional health care system. Hospice does not emphasize such goals of acute medical care as diagnosis, treatment, cure, and the prolongation of life.⁸ Will the medical community interpret the development of Hospice as an attack from without or a natural evolution in concepts of care for the dying? Hospice of North Carolina has a delicate and crucial task in gaining acceptance from the medical community.

Role in the Health Care System

A program operating in a socialized system (i.e., Great Britain) cannot be transplanted into the very complex American health care system. Funding alone is a problem. The most successful American Hospice program has been in financial distress since the expiration of its National Cancer Institute grant.⁵ The Department of Health, Education and Welfare has been unable to define Hospice as an entity, the

closest being the designation "chronic care hospital."⁴ The problem of third-party payments is a major obstacle to establishing free-standing inpatient units. For example, Medicare requires a preceding three-day hospitalization if a patient is to receive reimbursement for staying in an extended care facility.⁷ This rule may preclude moving the patient from home to Hospice as his health fluctuates.

The cost of inpatient Hospice care may be greater than that of extended care. Projected institutional costs for New Haven Hospice are 50% of a general hospital stay (17% for patient care and 83% for administration, research, evaluation and public information).⁹ The Milwaukee Hospice costs \$95 per day, compared with \$220-300 per day for an average area hospital.⁹ Hospice, Inc., of New Haven estimates that home care in its program reduces inpatient stays, thus reducing total health care costs.^{5,30} Thus, Hospice costs appear to fall between extended care facilities, such as nursing homes, and acute care hospitals.

A lively debate is in progress over free-standing versus hospital-based Hospices. Some contend that Hospice goals are incompatible with traditional hospital priorities of treatment and cure — the "technological imperative."^{4,5} Others counter, convincingly, that existing facilities have the resources, the capability, and most importantly the third-party funding necessary to realize Hospice goals in the American health care system. The high cost of construction coupled with the under-utilization of many health care facilities would argue strongly against new construction.^{7,8} A more fundamental criticism of free-standing Hospices, and perhaps of all Hospice services, is that additional fragmentation of care, over-specialization, and discontinuity of services could result.⁵

How does Hospice mesh with present national and state health care plans? The Department of Health, Education and Welfare has funded, through the National Cancer Institute's Division of Cancer Control and Rehabilitation, several pilot Hospice programs.

Will the health care systems in individual states be interested and able to absorb these programs? As the National Health Planning and Resources Development Act of 1974 is implemented, Hospice must fit into local and regional plans as assessed by health systems' agencies and may be subject to certificate-of-need laws. North Carolina's Area Health Education Centers may significantly influence the "fit" of Hospice, in concept and practice, into the local medical milieu. The State Health Planning and Developing Agency of North Carolina is evaluating Hospice in its own considerations of long-term care.

The Necessity of Hospice

Health care dedicated to the facilitation of the natural process of dying and the relief of pain and suffering has intrinsic appeal. Many have debated the right of the individual to deny "extraordinary means" of prolonging life.^{22,31,32} Increased social consciousness about the process of dying and a renewed public demand for personal medical care make ideas espoused by Hospice more timely and relevant. But do we need the formal institution, Hospice, to realize these ideas?

Much of the Hospice approach to dying sounds like "plain old good medicine," to be expected from an concerned and sensitive care-giver. Two issues give credence in part to the need for Hospice as a distinct entity. First, the goal of prolonging life beyond ordinary limits may detract from the natural process of dying when death is certain.^{22,23,33} Second, the personal involvement required of the practitioner working with dying patients can be quite demanding. Hospice specifically gives support to the team as well as to the patient.¹³

Implementing a Hospice Program

If Hospice is considered important for health care in North Carolina, how can it best be implemented? Two essential questions arise. First, should organization and support be local or national? For health planning in general, decentralization offers the

advantage of services created to suit local needs.³⁴ Hospice and community are inseparable. Therefore, the most useful "pilot project" of Hospice of North Carolina might be a demonstration project that emphasizes community support and integration.

Second, how can Hospice be coordinated with existing services? In North Carolina there is no well-trodden net of social medicine. Therefore, Hospice will not merge neatly into a preformed niche but will have to persuade volunteers, civil servants, physicians and facility directors that it warrants recognition and cooperation.^{7,23} Such cooperation should guide hospice advocates, through persuasion and consultation, to support those individuals and programs involved in developing their cherished concepts.

In summary, the concept of Hospice combines principles of good

medicine and nursing, emotional and spiritual counseling and community commitment into an approach to caring for the dying and their families. For Hospice to become distinctive and useful in this state, instead of nondescript and redundant, the health care community must take a careful look at its interaction with present community health systems and at the actual desires of patients, families and society.

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... The repair to the degenerated tubular epithelium is accomplished by two processes. First, by a regeneration of convoluted tubule cells from such cells not too severely injured in this location. This type of regenerated epithelium has no resistance to uranium. Second, the regeneration may occur as an ingrowth of cells or as syncytial buds from cells in the terminal portion of the proximal convoluted tubule or from the upper end of the descending limb of Henle's loop. This type of regenerated epithelium which is entirely different cytologically from normal convoluted tubule epithelium is resistant to a second injury from uranium even when the amount of this nephrotoxic agent has been increased to double the amount of the initial injection.

... The kidney does not develop a local tissue immunity or resistance to uranium in the sense that cells of the same type once injured by it acquire as a result of the injury a resistance. The resistance and apparent but not real immunity is due to another type of cell with resistance having been substituted for a cell with but little resistance. This fact may be looked upon as constituting part of a defense mechanism in the kidney and may in part explain the long duration of certain types of chronic nephritic processes.

... The functional studies which have been made during the initial injury from uranium to the tubules and during the secondary injury in animals which have either shown a resistance or a lack of resistance, emphasize the importance of the tubular epithelium as a part of a secretory mechanism in urine formation. During periods when the proximal convoluted tubule epithelium is in a state of acute degeneration there is a disturbance in the acid-base equilibrium of the blood, a reduction in the elimination of phenolsulphonaphthalein and a retention of urea nitrogen, non-protein nitrogen and creatinine. When this epithelium is regenerated by the formation of a tubular epithelium normal in character for this location of the tubule, regardless of structural changes in the glomeruli, the above evidence of renal dysfunction returns to the normal. If at such a period this type of regenerated epithelium be injured by a secondary injection of uranium a state of acute renal dysfunction is induced in an intensified form. In those animals in which the repair to the tubules was accomplished by the formation of an atypical type of epithelium in the convoluted tubules as well as by the formation of cells normal in histological appearance for this part of the tubule there was an improvement in the degree of depletion of the reserve alkali of the blood, in the elimination of phenolsulphonaphthalein and in the retention of urea nitrogen, non-protein nitrogen and creatinine. Certain of these values did not reach the normal. In such a state of renal repair when a second injection of uranium was given the kidney was found to have developed a marked resistance to it. There was but slight evidence of a depression in renal function. Associated with this acquired functional resistance there was no evidence of injury to the atypical, flattened regenerated epithelium of the proximal convoluted tubules. — WILLIAM DEB. MACNIDER. The Functional and Pathological Response of the Kidney in Dogs Subjected to a Second Subcutaneous Injection of Uranium Nitrate. *J Exper Med* 49:411-433, 1929. (Reproduced with permission).

White Blood Cell Count and Differential in Rocky Mountain Spotted Fever

George W. Hall, M.D., and Robert P. Schwartz, M.D.

ABSTRACT Rocky Mountain spotted fever can be a serious disease with mortality ranging from 20% to 40% in untreated cases. Occasionally, the rash can be delayed in appearance, making the diagnosis more difficult. In our experience, the presence of a white blood cell count less than 10,000/mm³ with a band count of greater than 10% in the proper clinical setting strongly suggests that the diagnosis of Rocky Mountain spotted fever should be considered.

ROCKY Mountain spotted fever is a rickettsial disease with significant morbidity and mortality. Laboratory data are nonspecific, and the diagnosis is often based on clinical findings. In reviewing our cases of Rocky Mountain spotted fever since 1970 at Charlotte Memorial Hospital and Medical Center, we were impressed with the significant shift to the left of the white blood cell count and especially the high percentage of bands in association with a normal total white blood cell count. This report presents these findings.

Methods

The admission laboratory data obtained from the medical records of patients hospitalized at Charlotte

Memorial Hospital and Medical Center between 1970 and 1977 with a diagnosis of Rocky Mountain spotted fever were reviewed. Forty-six patients were found who were 15 years of age or less. Twenty-seven cases were serologically confirmed by a fourfold rise in Complement Fixation titer or a Weil-Felix titer of greater than 1:160. Complement Fixation titers were done by the state laboratory in Raleigh, North Carolina. Two cases were also confirmed by positive micro-immunofluorescent titers performed at the Center for Disease Control Laboratory in Atlanta, Georgia. Nine cases of meningococemia and 27 cases of aseptic meningitis during this same period were also reviewed for comparison (Table I).

Results

The clinical details of our 27 serologically confirmed cases are given in Table II. On admission, the white blood cell count was less than 10,000/mm³ in 21 of 27 confirmed cases (78%). Three cases (11%) had white blood cell counts of 10,000-15,000/mm³, and three cases (11%) had white blood cell counts greater than 15,000/mm³. Eighteen cases (67%) had greater than 20% bands, 11% had 16-19% bands, 3 (11%) had 10-15% bands, and 3 (11%) had less than 10% bands. Eighty-nine percent had band counts of greater than 10%.

Six of the nine cases of meningococemia (66%) had band counts of greater than 10%; however, the blood leukocyte counts were also elevated with eight of nine cases.

TABLE I
Comparison of Admission Laboratory Data in Serologically Confirmed Cases of Rocky Mountain Spotted Fever (RMSF) and in Meningococcal and Aseptic Meningitis

	White Blood Cell Count			Percent Bands	
	<10,000/mm ³	10-15,000/mm ³	>15,000/mm ³	>10%	>20%
RMSF					
Number of Cases	21	3	3	24	18
Percent of Cases	78	11	11	89	67
Meningococcal					
Number of Cases	1	3	5	6	1
Percent of Cases	11	33	55	66	11
Aseptic					
Number of Cases	10	10	7	1	0
Percent of Cases	37	37	26	4	0

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89%) having white blood cell counts of greater than 10,000/mm³. In 27 cases of aseptic meningitis, the white blood cell counts varied (10 cases — less than 10,000/mm³, 10 cases — 10,000-15,000/mm³, and 7 cases — greater than 15,000/mm³), but only one of the 27 cases (4%) had a band count greater than 10%.

Discussion

Rocky Mountain spotted fever is a tick-borne infection transmitted in the Rocky Mountain area by the wood tick, *Dermacentor andersoni*, and in the Southeast by the dog tick, *Dermacentor variabilis*. The causative organism is *Rickettsia rickettsii*. In 1978, there were 204 cases reported in the state of North Carolina with nine fatalities.¹ The classic clinical features are fever, headache, myalgia, and a characteristic rash which appears first on the wrist and ankles. Laboratory findings are nonspecific, and the rise in Weil-Felix or Complement fixation titers may not be present for 10 to 21 days. Newer serologic tests, such as the microimmunofluorescent, micro-aggluti-

nation and hemagglutination tests, have been reported to be more specific than the Complement Fixation test.²

Recent reviews of Rocky Mountain spotted fever have not commented on the clinical usefulness of the white blood cell count and differential.³⁻⁶ Haynes, et al.,⁷ in a report of 78 cases of Rocky Mountain spotted fever in children, found that the white blood cell count and differential on admission were usually within normal limits. Riley⁸ and Hattwick, et al.,⁹ mentioned neither the white blood nor the differential cell counts. Harrell¹⁰ in 1949 did note that the blood leukocyte count is usually below 10,000 in the first week of the disease and that as the condition progresses, there is a shift to the left with young cells mostly of the band and stab type.

Infections that can be difficult to differentiate from Rocky Mountain spotted fever include meningococcemia, measles, rubella, typhoid fever, endemic typhus, murine typhus and enteroviral infections. In meningococcemia, the rash occurs shortly after the onset of fever

and rapidly becomes petechial whereas in Rocky Mountain spotted fever the rash appears approximately four days after the fever and gradually becomes petechial. In meningococcemia, the blood leukocyte count is usually high. Eight of our nine cases (89%) of meningococcemia had white blood cell counts greater than 10,000/mm³. In contrast, 21 of our 27 cases of Rocky Mountain spotted fever (78%) had white blood cell counts of less than 10,000/mm³. A gram stain of petechial lesions may be helpful in making a presumptive diagnosis of meningococcemia, and cultures of cerebrospinal fluid and/or blood should be positive.

The rash of measles appears three to five days after a characteristic prodrome of fever, coryza, cough, conjunctival injection and photophobia. The rash is maculopapular and coalesces, spreading from the face to the trunk and extremities. Koplik spots are pathognomonic. In rubella, the rash spreads quickly from the face to the trunk and extremities and is usually gone by three days. Constitutional symp-

TABLE II
Admission Laboratory Data in Rocky Mountain Spotted Fever

Case	Age (Years)	Tick Exposure	White Blood Cell Count	% Bands	Platelet Count	Serum Sodium	Serology	
							Weil-Felix	Complement Fixation
1	10	—	12,100	2	Plentiful	140	1:5120	
2	5	+	5,200	41	150,000		1:160	
3	5	+	13,800	33	150,000	118		1:64
4	13	+	8,500	53	17,000	117	1:640	1:128
5	1 9/12	+	12,900	11	150,000	126	1:2048	
6	9	+	1,900	50	98,000	135	1:1280	
7	10	—	5,600	28	30,000	128	1:2560	
8	4	+	6,700	20	162,000	129	1:1280	
9	10	+	4,300	11	71,000	130		1:32
10	11	+	37,000	5	78,000	127	1:320	
11	15	—	4,500	34	Plentiful			1:128
12	15	+	6,000	57	188,000	136	1:320	
13	7	—	6,100	34	33,000	123	1:160	
14	10	+	7,800	19	175,000	134		1:128
15	3	+	17,100	33	110,000	133	1:1280	
16	10	+	9,900	25	Plentiful	134		1:128
17	9	+	7,600	17	91,000	126	1:2560*	
18	12	+	5,200	46	Plentiful	123	1:320	
19	6	—	7,800	48	123,000	130	1:320*	
20	8	—	46,000	17	22,000	125	1:2560	
21	4	+	6,100	31	125,000	135	1:1280	
22	6	+	6,900	21	115,000	131	1:640	
23	2	—	6,200	5	21,000		1:160	
24	11	+	9,000	15	97,000	124	1:320	1:64
25	10	—	4,300	39	low normal	122	1:640	
26	8	+	6,600	53	178,000		1:320	
27	10	—	3,600	70	100,000		1:640	

*MIF—micro-immunofluorescent titer.

toms are mild, and post-auricular adenopathy is present. The rose spots of typhoid fever are usually on the trunk and do not become petechial. The rash of endemic typhus begins centrally and spreads peripherally, rarely involving the palms or soles. In murine typhus, symptoms are mild and the rash does not become purpuric.

Enteroviral infections are usually associated with gastrointestinal symptoms such as diarrhea or vom-

iting. The rash is usually distributed on the face and trunk and seldom becomes petechial. In our 27 cases of aseptic meningitis, the white blood cell counts were variable; but 96% had a band count of less than 10% in contrast to the cases of Rocky Mountain spotted fever in which 89% had band counts of greater than 10%.

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... animals ... given uranium nitrate ... developed an acute nephritis characterized by an early and severe injury to the proximal convoluted tubule epithelium and with but slight evidence of repair to such cells. The associated glomerular injury is characterized by the absence of any marked structural change other than a prominence of the capillary endothelium and an engorgement of these vessels with blood.

... The functional expression of this pathology consisted in the animal's becoming polyuric with an albuminous urine containing casts. If the intake of water could be maintained, the animals persisted as long as 14 days in a polyuric state, the output of urine equaling or exceeding the fluid intake. Associated with these changes in the volume output of urine there developed with the commencement of the epithelial injury, at a time when there was no structural evidence of glomerular injury, and progressed as the epithelial injury became intensified, a reduction in the elimination of phenolsulphonephthalein, a depletion in the reserve alkali of the blood and a marked retention of urea, non-protein nitrogen and creatinine. The mechanism concerned with water output becomes hyperactive, while that concerned with dye elimination and the elimination of certain endogenous waste products becomes progressively inactive.

Fifteen of the seventy-two dogs which were given an acute nephritis from uranium were able to effect such changes of repair in the kidney that they returned to a state of normal renal function. The animals of the series which were able to make this functional readjustment were young dogs between 1 and 2 years of age. During the acute phase of the nephritis ... tissue was removed from the ... left kidney. The pathological changes observed in this material were similar in character and localization, though not in intensity, to the changes previously described as occurring in the kidneys of the animals ... during an acute nephritis. There was a decided variation in the degree of injury to the proximal convoluted tubule cells. The earliest return to a state of functional normal was on the 19th day following the commencement of the nephritis, while the latest return to such a state was in the 7th month following the acute injury.

... A final group of animals, after having developed an acute nephritis, were unable to effect such changes of repair in the kidneys that a normal functional state could be established. These animals showed the anatomical characteristics and the functional expression of a chronic nephritis. Such a failure to return to a state of functional normal has been associated in them with the regeneration in the proximal convoluted tubules of a predominant type of epithelium which is atypical for the tubules in this location and with the development of structural changes in the smaller arteries of the kidney and obliterative changes in the glomeruli.

... The study as a whole emphasizes the functional value of the proximal convoluted tubule epithelium during periods of acute renal functional depression, when such periods are recuperated from with the establishment of a state of normal renal function and in conditions in which without a complete restoration of function a functional improvement has developed with the establishment of a chronic nephritis. — WILLIAM DEB. MACNIDER. The Development of the Chronic Nephritis Induced in the Dog by Uranium Nitrate. A Functional and Pathological Study with Observations on the Formation of Urine by the Altered Kidneys. *J Exper Med* 49:387-409, 1929. (Reproduced with permission).



Editorials

MIDWINTER MEETING OF THE EXECUTIVE COUNCIL OF THE NORTH CAROLINA MEDICAL SOCIETY

February 4, 1979

With the portraits of 79 of his predecessors in immobile attendance on the walls of the council chamber, the 122nd president of the North Carolina Medical Society, Dr. D. E. Ward, Jr., called the midwinter executive council to order at 9 a.m., February 4, 1979, in Raleigh. Occasionally, when the voting members attended to the necessary trivia of organizations, a careful observer might have suspected a faint smile flickering across the rather solemn countenances on the wall. Gloriously mustachioed, stiffly collared gentlemen of yesterday appeared somewhat puzzled by references to premarital rubella testing of postmenopausal and otherwise sterile women while others seemed too concerned with maintaining their poses to heed the deliberations of the council. The portraits obviously deserve attention both as historical items and as reflection of male fashions. Stiff collars have not returned although beards have and bow ties come and go. Ten worthies in fact were so accoutred while 68 of their peers chose the classic pour-in-hand. One was so lushly bearded that it is impossible to tell whether he wore a bow or sported a bare stud to keep his detachable collar in place.

Under the continuing observation of past presidents, Dr. Ward recognized Dr. Hugh H. Tilson, new director of the Division of Health Services, whose response indicated that he is keeping up with his homework nicely. Dr. Tilghman Herring then offered preliminary report from the Committee on Finance: since the report was comforting, the council moved riskily on to more controversial matters such as generic drug substitution which it decried if done without authorization of the prescribing physician, adequacy of financial support for Home Health Services, the strange behavior of authors of HSA and other health plans who seem to seek to speak for multitudes without submitting their reports to panel members charged with drawing up reports and the imperial stance of the Federal Trade Commission.

Also heard in this regard were Drs. Margaret Ann Jensen, chairman of the Committee on Cancer, and Philip Nelson, chairman of the Public Service Commission, each of whom expressed grave concern about plans relating to cancer and to mental health. In response to their distress, the council opposed repeal of General Statute 130-186 pending the results of a

recommended study by a carefully selected group of physicians, legislators and members of the Department of Human Resources and urged continuing funds adequate for the support of an effective Central Tumor Registry.

After hearing from the councilors of our 10 districts, the council then turned its attention to activities of the commissions. Dr. John D. Bridgers, Sr., chairman of the Committee on Medical Education, an arm of the Annual Convention Commission, reported that despite all tact, extensions and proddings, 174 members of the society (some members of the faculties at our medical schools and presumably educators themselves) had failed to comply with requirements for continuing medical education. Consequently the disciplinary actions previously defined by the House of Delegates were initiated by the council. The other commissioners had little to report except to confirm that they had been steadily at it as is their custom.

The council then in examining the status of the program to train physicians' assistants at the Catawba Valley Technical Institute in Hickory wondered whether the saturation point for physician extenders was being reached in North Carolina. The council then decided on the basis of the disclosure that the Catawba Valley program had no medical college affiliation to recommend that the provisional approval of this program by the AMA accrediting body be withdrawn. It also accepted a report of the North Carolina Alliance of Diploma Schools of Nursing, rejected the Governor's Council on Aging request for the Council to endorse a recommendation that all the elderly be immunized against pneumococcal pneumonia and influenza because such action would be contrary to sound medical judgment and FDA approved indications, heard about conflicts over fees between pathologists and Blue Cross-Blue Shield, hearkened to the report of our AMA delegation and considered a number of essential but undramatic matters.

But the highlight of the session for many of us was the presentation to Jake Koomen, former director of the Division of Health Services, of the society's Distinguished Service Award. Dr. Koomen has been with us in North Carolina since 1954 and has done so many things so well that our admiration is touched with awe and our respect with a faint blush of envy that such versatility, effectiveness and tack cannot be more common among us. Not least of his talents is that of delivering the apt, witty or subtle phrase either when he whispers to those he sits beside or when he rises to accept awards. His response to the society's recogni-

tion and appreciation created an almost magic moment, the memory of which will sustain us at later council meetings from which he will be missing. And if I may desert the editorial we for a moment — the seating arrangements of the council decreed (why I know not) that he and I sit side by side. For me, a late comer to organized medicine, it was serendipitous, a great good fortune. So for Jake as he works in Chapel Hill, our best wishes and for those he works with our joy for them in the experiences they have in store.

J.H.F.

HOSPICE IN NORTH CAROLINA

Beginning with Jessica Mitford's scathing indictment of the funeral industry some 15 to 20 years ago and followed by Elizabeth Kubler-Ross' more balanced inquiry into how we feel, think and talk (or *don't* talk) about death and dying, there now appears to be a genuine movement in the direction of forthright and open thinking about and working with the realities of dying and death.

Some warnings need to be sounded. Every movement has its excesses. There is the danger that the enthusiasm for "openness" about death will become either a new and oppressive "orthodoxy" demanding that all must glibly speak of death, or that it will

become a denial, in its own way, of the reality of the pain, loss and "defeat" inherent in death.

So it is clear that not every program that has to do with death and dying is well thought out: as long as there are human beings there will be perversions of ideals. But, having raised the caution signals, we do commend one program which has considerable merit. We use the word "program" in the broadest sense, because it springs from a particular philosophy and issues in a variety of programmatic forms. We are talking about *Hospice*. The philosophy of Hospice care is not radically different from that which has always been espoused by conscientious physicians as the ideal for humane medical care. But there is this difference in emphasis: when *cure* of the disease in a particular person is no longer an appropriate goal (because it is no longer possible), then *care* becomes the appropriate goal. It seems to be true that modern medical technology has made the prolongation of dying a possibility even when it is not the most humane or desirable option available to us. Almost without our willing it, we have come into an era when our technological systems seem to take on a life of their own and we enter a system (of extending dying) which we cannot easily escape.

Hospice does not have anything to do with death with dignity; it is not the precursor of a program for

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euthanasia. Hospice has to do with enabling a person to live (as distinct from "exist") until he dies. That implies a program of care that pays serious attention to symptoms, relieves pain and supports the family system.

Hospice of North Carolina, Inc., is one of more than 200 Hospice organizations in various stages of development across the country. The idea for an organization in this state grew out of a conference held less than two years ago in Chapel Hill. The efforts of those who planned and attended the conference led to the formation of Hospice of North Carolina, Inc., in 1977.

Much has been accomplished since then. Hospice chapters that will one day provide care at home have been established in Winston-Salem, Charlotte, Wilmington, and in the Raleigh-Durham-Chapel Hill area. Asheville, Hickory, Gastonia, and the Southern Pines-Pinehurst area have expressed a serious interest in starting chapters.

An executive director has been hired, a central office established in Winston-Salem, and a few small "start-up" grants have been obtained. A newsletter, *Hospice News*, a Speaker's Bureau, Friends of Hospice and a Hospice Memorial Fund have been established.

In the Middle Ages, Hospice was a place for weary travelers to rest before continuing their journey. Today a Hospice provides a similar haven for the terminally ill.

The modern Hospice was founded in England by pioneers in caring for the dying. For more than a quarter century Dr. Cicely Saunders has been providing a unique kind of care for the terminally ill at St. Christopher's Hospice in London.

This kind of special care is now being examined with growing enthusiasm by health professionals on this side of the Atlantic who see it as a real alternative to the kinds of care presently available to the terminally ill.

Hospice care provides a patient with a round-the-clock, on-call program of care directed by a physician and provided by nurses, social workers, trained volunteers and clergy. It includes the palliative management of the patient's pain as well as psychological, social, physical and spiritual support provided to both the patient and his family.

Sometimes this care is available at a special inpatient facility (such a facility is presently under construction in New Haven, Connecticut). Often, care at home is the answer.

Hospice of North Carolina, Inc., is focusing its efforts initially on establishing home care in this state. It is committed to providing Hospice care in North Carolina this year. To this end two Hospice chapters — Winston-Salem and Charlotte — have been designated to develop pilot projects in home care.

A good deal more can be and should be said about Hospice. But it does seem that the Hospice notion is timely and important; it springs from a philosophy of care that begins by putting back into proper perspective the reality of death. Because Hospice is commit-

ted to accepting that reality (when it is time — and no before), the patient and his family can be assured of a humane quality of care — which assurance itself will help make the quality of the days remaining worthwhile.

Is Hospice care for everyone? Almost surely not. But the corrective which Hospice supplies to our tendency to over-rely on our technology is surely a needed balance.

THE REV. PETER KEESE
President, Board of Director
Hospice of North Carolina, Inc.

DISEASES FOR ALL SEASONS

The monthly notes from the Epidemiology Section of the Division of Health Services, North Carolina Department of Human Resources, besides offering communicable disease morbidity data, provide succinct summaries about many medical problems. The December 1978 issue, for example, reminds us that gonorrhea has no season, that 2,636 cases were reported in the state during November and that 37,014 were observed during the year. By contrast, only seven cases of Rocky Mountain spotted fever (RMSF) were reported for the month but 204 for the year. Since the RMSF season — spring and summer — is upon us your attention is directed to the brief report in this issue of the *Journal* by Hall and Schwartz who remind us that simple blood counts can be helpful in discriminating between this often fatal illness¹ and other febrile sicknesses. Hematologic and vascular responses to systemic illness — thrombocytopenia, disseminated intravascular clotting, acute vasculitis — often determine the manner of presentation and certainly dictate therapy. Consequently, there is still a place for simple blood counts in our technological era.

Gonorrhea, on the other hand, is a vulgar disease in that vulgar refers to the mass of people whose indolent diversions know no season. In 1975, we published the CDC's recommendations for therapy of that ubiquitous process and commented that human behavior guarantees that such advice of necessity requires frequent revision.² That safe prophecy having been fulfilled, we offer, for the interested and concerned, current therapeutic imperatives from the CDC. By this time it should be obvious that gonorrhea like death and taxes will be ever with us and must be approached accordingly.

J.H.F.

REFERENCES

1. Hattwick MAW, Retaillau H, O'Brien RJ, et al: Fatal Rocky Mountain spotted fever. *JAMA* 240 1499-1503, 1978.
2. Gonorrhea. *NC Med J* 36:34, 1975.

AWAY FROM HOME: NORTH CAROLINA AVENUE

Once when man lived by seasons and not by the clock, the sweet showers of April were a sign for English pilgrimages to wend southeast from London to Canterbury, shrine of the martyred Thomas à Becket, seeking among other things help for them-

Dyazide[®]

Each capsule contains 50 mg of Dyrenium[®] (brand of triamterene) and 25 mg of hydrochlorothiazide.

Makes Sense in Hypertension*

Before prescribing, see complete prescribing information in SK&F Co. literature or PDR. A brief summary follows:

* Warning

This drug is not indicated for initial therapy of edema or hypertension. Edema or hypertension requires therapy titrated to the individual. If this combination represents the dosage so determined, its use may be more convenient in patient management. Treatment of hypertension and edema is not static, but must be reevaluated as conditions in each patient warrant.

Contraindications: Further use in anuria, progressive renal or hepatic dysfunction, hyperkalemia. Pre-existing elevated serum potassium. Hypersensitivity to either component or other sulfonamide-derived drugs.

Warnings: Do not use potassium supplements, dietary or otherwise, unless hypokalemia develops or dietary intake of potassium is markedly impaired. If supplementary potassium is needed, potassium tablets should not be used. Hyperkalemia can occur, and has been associated with cardiac irregularities. It is more likely in the severely ill, with urine volume less than one liter/day. The elderly and diabetics with suspected or confirmed renal insufficiency. Periodically serum K⁺ levels should be determined. If hyperkalemia develops, substitute a thiazide alone, restrict K⁺ intake. **Associated widened QRS complex or arrhythmia requires prompt additional therapy.** Thiazides cross the placental barrier and appear in cord blood. Use in pregnancy requires weighing anticipated benefits against possible hazards, including fetal or neonatal jaundice, thrombocytopenia, other adverse reactions seen in adults. Thiazides appear and triamterene may appear in breast milk. If their use is essential, the patient should stop nursing. Adequate information on use in children is not available.

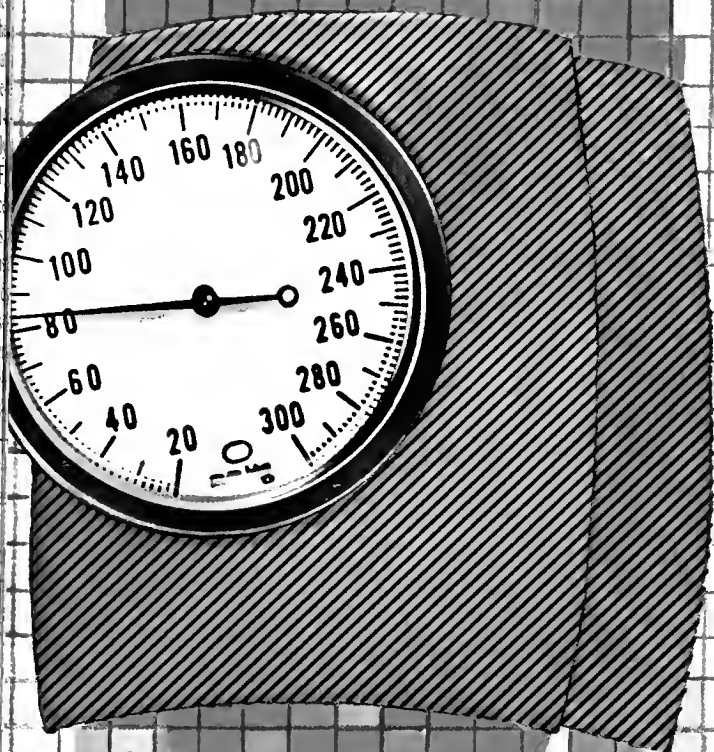
Precautions: Do periodic serum electrolyte determinations (particularly important in patients vomiting excessively or receiving parenteral fluids). Periodic BUN and serum creatinine determinations should be made, especially in the elderly, diabetics or those with suspected or confirmed renal insufficiency. Watch for signs of impending coma in severe liver disease. If spiro-lactone is used concomitantly, determine serum K⁺ frequently, both can cause K⁺ retention and elevated serum K⁺. Two deaths have been reported with such concomitant therapy (in one, recommended dosage was exceeded, in the other serum electrolytes were not properly monitored). Observe regularly for possible blood dyscrasias, liver damage, other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving triamterene, and leukopenia, thrombocytopenia, agranulocytosis, and aplastic anemia have been reported with thiazides. Triamterene is a weak folic acid antagonist. Do periodic blood studies in cirrhotics with splenomegaly. Antihypertensive effect may be enhanced in post-sympathectomy patients. Use cautiously in surgical patients. The following may occur: transient elevated BUN or creatinine or both, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), hyperuricemia and gout, digitalis intoxication (in hypokalemia), decreasing alkali reserve with possible metabolic acidosis. Dyazide interferes with fluorescent measurement of quinidine.

Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth, anaphylaxis, rash, urticaria, photosensitivity, purpura, other dermatological conditions, nausea and vomiting, diarrhea, constipation, other gastrointestinal disturbances. Necrotizing vasculitis, paresthesias, icterus, pancreatitis, xanthopsia and, rarely allergic pneumonitis have occurred with thiazides alone.

Supplied: Bottles of 100 and 1000 capsules, Single Unit Packages of 100 (intended for institutional use only).

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**When painful spasm
is the presenting
symptom...**



...in the functional bowel/irritable bowel syndrome*

Bentyl[®]

(dicyclomine hydrochloride USP)

10 mg. capsules, 20 mg. tablets,
10 mg./5 ml. syrup, 10 mg./ml. injection

helps control abnormal motor activity
with minimal anticholinergic side effects[†]

Demonstrated smooth muscle relaxant activity.

In this double-blind study, twenty patients having G.I. series and exhibiting spasm were randomly selected to receive either 2 cc. of Bentyl or sodium chloride intramuscularly. Ten minutes after the injection another radiograph was taken . . .

. . . Bentyl produced definite relaxation in 8 of 10 patients. The sodium chloride produced relaxation in only 3 of 10. No side effects occurred in either group of patients.



Pylorospasm has almost totally blocked passage of barium meal.



Barium meal beginning to pass 10 minutes after intramuscular injection of 20 mg. Bentyl.

"The correlation of spasm relief and drug given was excellent."

*This drug has been classified "probably" effective in treating functional bowel/irritable bowel syndrome

†See Warnings, Precautions and Adverse Reactions.

See following page for prescribing information.

Reference:

King, J.C. and Starkman, N.M. - Evaluation of an antispasmodic. Double-blind evaluation to control gastrointestinal spasms occurring during radiographic examination. A preliminary report. Western Med. 5:356-358, 1964

Merrell

Bentyl (dicyclomine hydrochloride USP)

Capsules, Tablets, Syrup, Injection

AVAILABLE ONLY ON PRESCRIPTION

Brief Summary

INDICATIONS

Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FDA has classified the following indications as "probably" effective

For the treatment of functional bowel/irritable bowel syndrome (irritable colon, spastic colon, mucous colitis) and acute enterocolitis

THESE FUNCTIONAL DISORDERS ARE OFTEN RELIEVED BY VARYING COMBINATIONS OF SEDATIVE, REASSURANCE, PHYSICIAN INTEREST, AMELIORATION OF ENVIRONMENTAL FACTORS

For use in the treatment of infant colic (syrup)

Final classification of the less-than-effective indications requires further investigation

CONTRAINDICATIONS Obstructive uropathy (for example, bladder neck obstruction due to prostatic hypertrophy), obstructive disease of the gastrointestinal tract (as in achalasia, pyloro-duodenal stenosis); paralytic ileus, intestinal atony of the elderly or debilitated patient, unstable cardiovascular status in acute hemorrhage, severe ulcerative colitis, toxic megacolon complicating ulcerative colitis, myasthenia gravis. **WARNINGS** In the presence of a high environmental temperature, heat prostration can occur with drug use (fever and heat stroke due to decreased sweating). Diarrhea may be an early symptom of incomplete intestinal obstruction, especially in patients with ileostomy or colostomy. In this instance treatment with this drug would be inappropriate and possibly harmful. Bentyl may produce drowsiness or blurred vision. In this event, the patient should be warned not to engage in activities requiring mental alertness such as operating a motor vehicle or other machinery or perform hazardous work while taking this drug. **PRECAUTIONS** Although studies have failed to demonstrate adverse effects of dicyclomine hydrochloride in glaucoma or in patients with prostatic hypertrophy, it should be prescribed with caution in patients known to have or suspected of having glaucoma or prostatic hypertrophy. Use with caution in patients with Autonomic neuropathy. Hepatic or renal disease. Ulcerative colitis. Large doses may suppress intestinal motility to the point of producing a paralytic ileus and the use of this drug may precipitate or aggravate the serious complication of toxic megacolon. Hyperthyroidism, coronary heart disease, congestive heart failure, cardiac arrhythmias, and hypertension. Hiatal hernia associated with reflux esophagitis since anticholinergic drugs may aggravate this condition.

Do not rely on the use of the drug in the presence of complication of biliary tract disease. Investigate any tachycardia before giving anticholinergic (atropine-like) drugs since they may increase the heart rate. With overdosage, a curare-like action may occur. **ADVERSE REACTIONS** Anticholinergics/antispasmodics produce certain effects which may be physiologic or toxic depending upon the individual patient's response. The physician must delineate these. Adverse reactions may include xerostomia, urinary hesitancy and retention, blurred vision and tachycardia, palpitations, mydriasis, cycloplegia, increased ocular tension, loss of taste, headache, nervousness, drowsiness, weakness, dizziness, insomnia, nausea, vomiting, impotence, suppression of lactation, constipation, bloated feeling, severe allergic reaction or drug idiosyncrasies including anaphylaxis, urticaria and other dermal manifestations, some degree of mental confusion and/or excitement, especially in elderly persons, and decreased sweating. With the injectable form there may be a temporary sensation of lightheadedness and occasionally local irritation. **DOSE AND ADMINISTRATION** Dosage must be adjusted to individual patient's needs.

Usual Dosage Bentyl 10 mg capsule and syrup. **Adults** 1 or 2 capsules or teaspoonfuls syrup three or four times daily. **Children** 1 capsule or teaspoonful syrup three or four times daily. **Infants** ½ teaspoonful syrup three or four times daily. (May be diluted with equal volume of water.) Bentyl 20 mg. **Adults** 1 tablet three or four times daily. Bentyl Injection, **Adults** 2 ml (20 mg) every four to six hours intramuscularly only. **NOT FOR INTRAVENOUS USE.** **MANAGEMENT OF OVERDOSE** The signs and symptoms of overdose are headache, nausea, vomiting, blurred vision, dilated pupils, hot, dry skin, dizziness, dryness of the mouth, difficulty in swallowing, CNS stimulation. Treatment should consist of gastric lavage, emetics, and activated charcoal. Barbiturates may be used either orally or intramuscularly for sedation but they should not be used if Bentyl with Phenobarbital has been ingested. If indicated, parenteral cholinergic agents such as Urecholine® (bethanechol chloride USP) should be used.

Product Information as of October, 1978

Injectable dosage forms manufactured by CONNAUGHT LABORATORIES, INC., Swiftwater, Pennsylvania 18370 or TAYLOR PHARMACAL COMPANY, Decatur, Illinois 62525 for MERRELL-NATIONAL LABORATORIES, Division of Richardson-Merrell Inc., Cincinnati, Ohio 45215, U.S.A.

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selves "when they were sick." Chaucer in the *Prologue to Canterbury Tales*, the first truly realistic work in English literature, gives portraits of these seekers, acutely observed almost beyond the limits of modern psychology. Even a "perfect practicing physician," well-grounded in astrology, then called astronomy, and well-versed in the humors, was among the travelers, identified as to his station by blood-red garments with bluish-gray stripes and taffeta lining.

As the centuries passed, the age of science succeeded the age of faith but April remains a time for renewal. Even physicians continue to embark on pilgrimages, but now in all seasons and by car, airplane or ship to any quarter of the globe. Like Canterbury pilgrims, we seek more than spiritual renewal — amusement, a change of environment, some new knowledge, all the easier because the trip can be combined with a tax-deductible adventure in postgraduate medical education. One of the secular shrines of April used to be Atlantic City where hundreds of academic physicians of all stripes descended to exchange stories and to share drinks and scientific advances. Even the train or car ride across South Jersey brought such strange rewards as signs at town limits requesting that all criminals please register and to a Carolinian used to our beaches amazement that the Boardwalk with its auction shops and hawkers could attract anyone. Pompous hotels of Burger King-Byzantine architecture did appeal to one's sense of the absurd as did the knowledge that Bert Parks presided over the rite whereby Miss America was annually revealed.

One of the favorite watering places for scientific seekers was the Chalfonte-Haddon Hall at the corner of the Boardwalk and North Carolina Avenue, around the corner from the Steel Pier jutting out tentatively into the Atlantic. The weather was seldom pleasant, the facilities deteriorated and the meetings became less manageable as train and plane connections became more and more difficult. So the medical pilgrims now go elsewhere in April — to New Orleans, San Francisco, Washington — where the shrines are more numerous and the entertainment more diverse.

It appeared for a time that Atlantic City would be preserved only to challenge archeologists of the 25th Century. But many of the buildings could not endure except on the Monopoly board, so heroic measures appropriate to our technological era were indicated. Now Atlantic City offers us Resorts International at the corner of Boardwalk and North Carolina Avenue. Haddon Hall and the Chalfonte have relinquished their proud names and at this writing boast "The On Game in Town".¹ Their more than 500 hotel buildings allowed them to make the graceful transition to a shrine dedicated to that most ancient of Gods, Chance. Visitors come round-trip in chartered buses, buy their saltwater taffy before they wager and leave their votive offerings on the tables of the casinos comfortable in the knowledge that their return ticket guarantees a safe trip home.

Chaucer understood the needs of pilgrims and

ould have appreciated quests of latter-day physicians. He might have thought less kindly of legalized gambling and of edifices dedicated to Chance, but with his knowledge of humanity he would not have been surprised.

J.H.F.

REFERENCE

Kahn Jr EJ. Our Far-Flung Correspondents -The Only Game in Town. The New Yorker, December 18, 1977, pp 124-131

INSECT STING ALLERGY

*How doth the little busy bee
Improve each shining hour*

Divine Songs XX, Isaac Watts (1674-1748)

That on September 14, 1978, a conference of the emergency treatment of insect sting allergy was held

at the National Institutes of Health in Bethesda, Md., was in large measure attributable to the efforts of Dr. Claude Frazier, a member of our society who has long advocated a more vigorous approach to this problem. Both in Bethesda and in North Carolina there has been considerable reluctance to countenance making insect-sting kits available over-the-counter for a variety of reasons, well-outlined in a recent commentary by Barclay.¹ Interested readers will find Dr. Frazier's dissenting view succinctly presented in this issue of the *Journal* in our letters section. Clearly the bee and others of the order **Hymenoptera** do not "improve each shining hour".

J.H.F.

REFERENCE

1 Barclay WR. Emergency treatment of insect-sting allergy. JAMA 240 2735, 1978

Correspondence

INSECT STING ANAPHYLAXIS

to the Editor:

I read Dr. George Podgorny's editorial in your October issue with a great deal of interest and with a hearty amen. I have served on the editorial staff of the *Emergency Medical Services Journal* and have developed respect and admiration for the emergency medical technician. I am impressed not only by what they are doing at present but by what they could do if they had more support from physicians, as Dr. Podgorny suggests.

As an allergist, I would like to see their ability to provide on-the-spot emergency care broadened to include training in recognition of symptoms of generalized systemic reactions to insect stings or to drugs or foods and in the administration of premeasured subcutaneous dosages of epinephrine 1:1000 (0.3 cc to 0.5 cc for adults, no more than 0.3 cc for children) when such symptoms develop and a physician is not immediately available. Anaphylaxis can be fatal in a matter of minutes, and injectable subcutaneous epinephrine is the only drug that will stave off accelerating symptoms long enough to allow time to transport the victim to a physician or hospital. Such severe reactions frequently occur far from both. Nor does the victim always have prior warning of his/her hypersensitivity. A severe, life-threatening allergic reaction can occur out-of-the-blue.

I would go even further to recommend that others responsible for public safety, such as forest rangers, school nurses, designated policemen and the like, should be given such emergency medical training. For instance, in a recent survey I conducted in North

Carolina schools, I discovered that many of the schools did not have a school nurse in regular attendance, that rather a district nurse rotated among the schools spending a few hours a week in each.

I also discovered in many of the schools queried that even if she happened to be on the spot during an emergency, there was not much she could do about it except see to it that the child was transported rapidly to the nearest physician or hospital. She would not, in many of the schools, be allowed to administer epinephrine even if she had parental permission to do so.

Therefore, I concur with the Academy of Pediatrics' suggestion that two teachers in every school receive advanced first aid or Emergency Medical Technician's training, periodically updated to maintain skills, and that they keep complete first aid supplies on hand. I would add that such training include recognition of symptoms of a severe allergic reaction and the administration of premeasured subcutaneous injections of epinephrine. Such training in our schools would be neither difficult to initiate or maintain. It could save the life of a child.

I would hope that physicians in North Carolina would support such a program in their localities and that the North Carolina Medical Society would support necessary legislation to bring such programs about. I hereby volunteer my services to aid in any such training program.

—CLAUDE A. FRAZIER, M.D.
Doctors Park, Bldg. 4
Asheville, N.C. 28801

Committees and Organizations



THE UNIVERSITY OF NORTH CAROLINA SCHOOL OF MEDICINE CENTENNIAL VISITING SCHOLARS

A number of departments in the School of Medicine at the University of North Carolina at Chapel Hill invited scholars and clinicians to be Centennial Alumni Visiting Professors in the celebration of the school's 100th birthday in February. Seven of those were listed in the January issue of the JOURNAL. Four others were added later. They and their host departments are: Dr. Robert G. Brame, obstetrics and gynecology; Dr. Frederick K. Goodwin, psychiatry; Dr. Anthony Y. H. Lu, biochemistry; and, Dr. William J. Waddell, pharmacology.

Brame received his undergraduate and medical degrees from the University of North Carolina at Chapel Hill and served on the faculty of the School of Medicine. He is professor and chairman of the Department of Obstetrics and Gynecology at East Carolina University.

Goodwin received his M.D. from the St. Louis University School of Medicine before training in psychiatry at UNC. He is the chief of the Psychobiology Branch of the National Institute of Mental Health.

Lu received his Ph.D. in biochemistry from UNC-CH, then joined the Department of Biochemistry and Drug Metabolism at the Roche Institute of Molecular Biology before assuming his present position as senior investigator with Merck, Sharp and Dohme.

Waddell received his M.D. from the School of Medicine in 1955 and was a member of the faculty in the Department of Pharmacology and was associated with the Dental Research Institute. He joined the faculty of the University of Kentucky in 1972 and is currently professor and chairman of the Department of Pharmacology and Toxicology at the University of Louisville School of Medicine.



Angiograms performed on ten of the cirrhotic patients in our series revealed an overall increase in the size of the splenic artery, indicating a large flow of blood through this artery. This change could not be accounted for on the basis of obstruction to outflow from the portal vein. Rapid visualization of the splenic vein, such as occurred in the patients studied by angiography, would be extremely unlikely unless the contrast material bypasses the sinusoidal network through arteriovenous communications.

.....
All patients with cirrhosis and portal hypertension do not have hyperdynamic cardiovascular systems and probably have varying physiological abnormalities in the portal system. While the operation of choice for portal hypertension might depend on the local and stemic hemodynamics, we have as yet found no correlation between the hemodynamic data and the clinical results. As more sensitive techniques become available, it may be possible to evolve an approach to this disease based on sound physiological principles. Humoral control of the portal arteriovenous shunts in animals has been suggested in previous reports from this laboratory. Further investigation and use of drugs to control this hyperdynamic circulation may be of benefit.

It is our opinion that an ablative operation designed to reduce the flow through functioning arteriovenous communications is worthy of further evaluation. Although it is not as effective as a portacaval shunt in controlling the bleeding from esophageal varices, it does have the following advantages:

- 1) It imposes no additional burden on an already strained systemic cardiovascular system.
- 2) The long-term survival compares favorably with that of a portacaval shunt.
- 3) Hepatic encephalopathy is not potentiated.

4) It may be less deleterious to the liver than is a portacaval shunt. — George Johnson, Jr., Nathan A. Womack, Orlando F. Gabriele and Richard M. Peters. Control of the Hyperdynamic Circulation in Patients with Bleeding Esophageal Varices *Ann Surg* 169:661-671, 1969. (Reproduced with permission.)

An uncommon place

From time to time individuals may experience extreme problems in living. When this happens it may be necessary to seek help from experienced members of the medical and helping professions. Mandala Center is an uncommon place dedicated to bringing to individuals an awareness of the source of their distress and help them find resolutions to their problems.

A fully-accredited 75-bed private psychiatric hospital and clinic, Mandala moved to its new quarters on a 16-acre suburban site in November, 1976. Founded in April, 1972, the Center serves individuals from the mildly distressed to the acutely disturbed.

Children, young people and adults may enter the treatment programs. Hospital and clinic programs are available for all categories of emotional and mental dysfunctioning

including alcohol and drug abuse. Interdisciplinary treatment teams plan and implement the programs which are individualized for each person. The services consist of individual, child, couples, group and family therapies, pastoral counseling, sexual and living skills education, vocational guidance and rehabilitation, psychological testing, chemotherapy, psychoelectrotherapy and other somatic therapy services.

Under medical supervision, the treatment teams consist of psychiatrists, psychologists, pastoral counselors, social workers, physicians' associates, psychiatric nurses, mental health workers, occupational and activities therapists.

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 Palmer, David Barton, MD, (P) Ste. 350, 1850 E. Third St., Charlotte 28204
 Plowden, James Francis, MD, (HEM) 1501 Trafalgar Ct., High Point 27260
 Pollock, Nelson Earl, MD, (IM) 1605 Country Club Dr., High Point 27262
 Powell, James Meyers, Jr., MD, (P) 7325 Valley Brook Rd., Charlotte 28211
 Pumell, William David, MD (OPH) 720 W. Jones St., Raleigh 2760
 Rau, Bruce William, MD, (P) #25 Fairway Dr., Box 740, Bermud Run, Advance 27006
 Ravaris, Charles Lewis, MD, (P) 103 Christenbury Dr., Greenville 27834
 Seltzer, Stephen Charles, MD (FP) 320 Yadkin St., Albemarle 28001
 Simstein, Neil Leland, MD, (GS) 265 Gloucestershire Rd Winston-Salem 27104
 Smith, Calvin Thomas, MD, (U) Winsteadville Med. Cli. Rt. # Belhaven 27810

Sence, Frank J., Jr., (STUDENT) 824 Louise Circle, Durham 27705
 Seros, Thomas Lee, MD, (INTERN-RESIDENT) 65 Woods Edge, Asheville 28803
 Strout, William Lawrence, MD, (OM) P.O. Box 2042, Wilmington 28401
 Sung, Douglas Jay (STUDENT) 1500 Duke University Rd., Apt. 3A, Durham 27701
 Surrier, Daniel Robert (STUDENT) 407-A Eastbrook Apts., Greenville 27834
 Swnley, Karl Harvey, Jr., MD, (GP) P.O. Box 771, Shallotte 28459
 Sxes, Charlie Louis, Jr., MD, (INTERN-RESIDENT) 2007-F Fall Dr., Wilmington 28401
 Tckett, Amos Darrell, MD, (GS) 1414 Medical Ctr. Dr., Wilmington 28401
 Watson, Nat Erskine, Jr., MD, (NM) 439 Dartmouth Road, Winston-Salem 27104
 Watters, John Lord, MD, 3612 Lubbock Drive, Raleigh 27612
 Wheatley, Samuel Nally, MD, (OBG) 306 N. Madison St., Whiteville 28472
 Ymnik, Bhavana Ramesh, MD, (PD) 675 Biltmore Avenue, Asheville 28805

WHAT? WHEN? WHERE? In Continuing Education

Please note: 1. The Continuing Medical Education Programs at Bowman Gray, Duke, East Carolina and UNC Schools of Medicine, Dorothea Dix, Wayne County Hospital and Burroughs Wellcome Company are accredited by the American Medical Association. Therefore CME programs sponsored or co-sponsored by these schools automatically qualify for AMA Category 1 credit toward the AMA's Physician Recognition Award, and for North Carolina Medical Society Category A credit. Where AAFP credit has been requested or obtained, this also is indicated.

2. The "place" and "sponsor" are indicated for a program only when these differ from the place and source to write "for information."

PROGRAMS IN NORTH CAROLINA

May 2-3

Annual Meeting of the North Carolina Thoracic Society
 Place: Royal Villa, Raleigh
 For Information: Mr. C. Scott Venable, Executive Director, North Carolina Lung Association, P.O. Box 127, Raleigh 27602

May 3-6

125th Annual Session of the North Carolina Medical Society
 Place: Pinehurst Hotel and Country Club, Pinehurst
 For Information: Mr. William N. Hilliard, Executive Director, North Carolina Medical Society, P.O. Box 27167, Raleigh 27611

May 9-10

Respiratory Care Symposium: Breath of Spring 1979
 Fee: \$35
 Credit: 10 hours
 For Information: Emery Miller, M.D., Associate Dean for Continuing Education, Bowman Gray School of Medicine, Winston-Salem 27103

May 18

In-Depth Course in Hyperalimentation
 Place: Mountain Area Health Education Center, Asheville
 Credit: 8 hours, AMA Category 1
 For Information: Department of Continuing Medical Education, Mountain Area Health Education Center, 501 Biltmore Avenue, Asheville 28801

May 18-19

5th Annual Course in Perinatology
 Fee: \$60
 Credit: 9 hours

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For complete information contact:
 AF Health Professions Recruiting,
 PO Box 27566, Raleigh, NC 27611,
 919-755-4134. Please call collect.

AIR FORCE. HEALTH CARE AT ITS BEST.

For Information: William Wood, M.D., Director of Continuing Education, UNC School of Medicine, 319 MacNider Building 202-H, Chapel Hill 27514

May 18-20

Duke — McPherson Otolaryngology Symposium
Credit: 6 hours

For Information: Joseph C. Farmer, M.D., Box 3805 Duke University Medical Center, Durham 27710

May 18-20

Recent Advances in Diagnosis and Treatment of Pediatric Lung Disease

Place: Duke University

Credit: 12 hours

For Information: Alexander Spock, M.D., Duke University Medical Center, Durham 27710

May 23

Diabetes Mellitus — Clinical Update

Place: Lee County Hospital, Sanford

Fee: \$6

Credit: 3.5 hours, AMA Category 1

For Information: R. S. Cline, M.D., Lee County Hospital, 108 Hillcrest Drive, Sanford 27330

May 23-25

North Carolina Heart Association Annual Meeting and Scientific Session

Place: Winston-Salem Hyatt House

For Information: North Carolina Heart Association, 1 Heart Circle, Chapel Hill 27514

May 24

Workshop on Sexually Transmitted Diseases

Place: Hilton Inn, Greensboro

For Information: Mr. Pete B. Auerbach, Director of Planning, North Carolina United Way, 301 South Brevard Street, Charlotte 28202

June 7-8

Comprehensive Management of the Spinal Injured Patient

Credit: 13 hours

For Information: Mrs. Elizabeth Trought, Box 3883, Duke University Medical Center, Durham 27710

June 8-9

Interactional Skills in Medical Practice

For Information: William Wood, M.D., Director of Continuing Education, UNC School of Medicine, 319 MacNider Building 202-H, Chapel Hill 27514

June 9

Update in Ophthalmology

Place: 105 Berryhill Hall

Fee: \$30

Credit: 3 hours

For Information: William Wood, M.D., Director of Continuing Education, UNC School of Medicine, 319 MacNider Building 202-H, Chapel Hill 27514

June 14-17

Seaboard Medical Association

Place: Holiday Inn, Nags Head

For information: Mrs. Annette Boutwell, P.O. Box 10387, Raleigh 27105

June 16-17

Practical Dermatology

Place: Emerald Isle Motor Inn

Fee: \$50

Credit: 7 hours

For information: W. M. Sams, M.D., N.C. Memorial Hospital, Chapel Hill 27514

June 20-21

Surgery Symposia

Place: Appalachian State University

For Information: Office of Continuing Medical Education, East Tennessee State University, Johnson City, Tennessee 37601

June 21-23

Mountain Top Medical Assembly

Place: Waynesville Country Club

For Information: Clinton L. Border, Jr., M.D., 204 Depot Street Waynesville 28786

July 9-12

Annual Meeting Blue Ridge Institute

Place: Black Mountain

Sponsor: North Carolina Lung Association

Fee: \$25

For Information: Mr. C. Scott Venable, Executive Director, North Carolina Lung Association, P.O. Box 27985, Raleigh 27611

July 9-13

Duke University Medical Center Postgraduate Course — Morehead Symposium

Place: Atlantic Beach

Fee: \$175

Credit: 30 hours

For Information: M. Henderson Rourke, M.D., Director of Continuing Medical Education, Duke University Medical Center, Durham 27710

July 12-14

First Annual Mountain Workshop

Place: Asheville

Fee: \$100

Credit: 12 hours

For Information: Emery C. Miller, M.D., Associate Dean for Continuing Education, Bowman Gray School of Medicine, Winston-Salem 27103

July 14-15

Practical Dermatology

Place: Continuing Education Center, Boone

Fee: \$50

Credit: 7 hours

For Information: W. M. Sams, M.D., N.C. Memorial Hospital, Chapel Hill 27514

July 18

Prospective Medicine

Place: Lee County Hospital, Sanford

Fee: \$6

Credit: 3.5 hours AMA Category 1

For Information: R. S. Cline, M.D., Lee County Hospital, 108 Hillcrest Drive, Sanford 27330

July 22-27

Diagnosis & Management of Alcoholism & Alcohol Related Disorders

Place: Duke University Medical Center

Credit: 36½ hours

For Information: M. Henderson Rourke, M.D., Director of Continuing Medical Education, Duke University Medical Center, Durham 27710

July 22-27

Southern Obstetric and Gynecologic Seminar

Place: Grove Park Inn, Asheville

For Information: W. Otis Duck, M.D., Drawer E, Mars Hill 28755

July 30-August 4

Diagnostic Radiology Including Ultrasound, CT Scanning and Nuclear Medicine

Place: Atlantic Beach

Fee: \$250

Credit: 30 hours

For Information: Robert McLelland, M.D., Radiology-Box 380 Duke University School of Medicine, Durham 27710

August 10-11

Electron Microscopy in Diagnostic Pathology

Place: Babcock Auditorium

Fee: \$90

Credit: 7 hours

For Information: Emery C. Miller, M.D., Associate Dean for Continuing Education, Bowman Gray School of Medicine, Winston-Salem 27103

September 6-9

Annual Meeting North Carolina Academy of Pediatrics and North Carolina Pediatric Society

Place: Pinehurst Hotel and Country Club

For Information: David Williams, M.D., Chapter Chairman, P.O. Box 27167, Raleigh 27611

September 13-16

1979 Duke University Invitational Assembly for Advanced Urology
Place: Pinchurst Hotel and Country Club
Credit: 16 hours
For Information: Linda Mace, Assembly Secretary, Box 3707, Duke Hospital, Durham 27710

September 19

Mat's New and Old in Gastrointestinal Disease
Place: Lee County Hospital, Sanford
Fee: \$6.00
Credit: 3.5 hours AMA Category I
For Information: R. S. Cline, M.D., Lee County Hospital, 108 Hillcrest Drive, Sanford 27330

September 20-21

Full Time Course for Obstetricians
Credit: 10 hours
For Information: James F. Martin, M.D., Director, Center for Medical Ultrasound, Bowman Gray School of Medicine, Winston-Salem 27103

September 21-22

Annual Seminar in Medicine
Credit: 12 hours
For Information: Emery C. Miller, M.D., Associate Dean for Continuing Education, Bowman Gray School of Medicine, Winston-Salem 27103

September 26-30

North Carolina Medical Society Annual Committee Conclave
Place: Mid-Pines Club, Southern Pines
Regular meetings will be scheduled for the Chairman and members of almost all regular Committees of the Medical Society; committee members should plan to be present.
For Information: William N. Hilliard, Executive Director, North Carolina Medical Society, P.O. Box 27167, Raleigh 27611

October 11-13

Family Medicine Workshop
For Information: Emery C. Miller, M.D., Associate Dean for Continuing Education, Bowman Gray School of Medicine, Winston-Salem 27103

ITEMS OF SPECIAL INTEREST

May 6-10

21st International Symposium on Adolescent Medicine
Place: Mayflower Hotel, Washington, D.C.
Sponsor: The Society for Adolescent Medicine
Fee: \$150
For Information: The Institute for Continuing Education, P.O. Box 1083, Richmond, Virginia 23230

May 10-11

Physicians and Chronic Mental Patients: Potentials for Community Based Care
Place: Palmer House, Chicago, Illinois
Sponsor: American Medical Association
For Information: Ms. Suellen Muldoon, Associate Director, Department of Mental Health, American Medical Association, 535 North Dearborn Street, Chicago, Illinois 60610

May 23-24

Continuing Medical Education Program for Physicians Assistants
Place: Babcock Auditorium
Fee: None
For Information: Physician Assistants Training Program, Bowman Gray School of Medicine, Winston-Salem 27103

October 15-December 7

Retraining Program for Clinically Inactive Physicians
Place: The Medical College of Pennsylvania
Fee: \$1,950
For Information: Retraining Program for Inactive Physicians, Office of Medical Education, The Medical College of Pennsylvania, 300 Henry Avenue, Philadelphia, Pennsylvania 19129

PROGRAMS IN CONTIGUOUS STATES

June 8-10

EKG Interpretation and Arrhythmia Management
Place: Hyatt Regency, Atlanta
Fee: \$202
Credit: 15
For Information: International Medical Education Corporation, 64 Inverness Drive East, Englewood, Colorado 80112

June 22-26

Dermatology for the Non-Dermatologist
Place: Kiawah Island, South Carolina
Fee: \$275
Credit: 16 hours
For Information: Gerald Lazarus, M.D., Box 2987, Duke University Medical Center, Durham 27710

June 29-30

Medical Horizons: Hypertension and Cardiovascular Disease
Place: Myrtle Beach, South Carolina
Fee: \$20
Credit: 10 hours
For Information: Emery C. Miller, M.D., Associate Dean for Continuing Education, Bowman Gray School of Medicine, Winston-Salem 27103

July 25-29

Contemporary Clinical Neurology
Place: Hilton Head Island, South Carolina
Sponsor: Department of Neurology, Vanderbilt University School of Medicine
Credit: 16 hours
For Information: Vanderbilt Continuing Education, 305 Medical Arts Building, Nashville, Tennessee 37212

July 30-August 3

Seventh Annual Beach Workshop
Place: Myrtle Beach, South Carolina
Fee: \$150
Credit: 20 hours
For Information: Emery C. Miller, M.D., Associate Dean for Continuing Education, Bowman Gray School of Medicine, Winston-Salem 27103

August 24-26

Cardiac Ischemia and Arrhythmias — Current Concepts for Diagnosis and Treatment
Place: Hilton Head, South Carolina
Fee: \$215
Credit: 13 hours
For Information: International Medical Education Corporation, 64 Inverness Drive East, Englewood, Colorado 80112

The items listed in the above column are for the six months immediately following the month of publication. Requests for listing should be received by "WHAT? WHEN? WHERE?", P.O. Box 27167, Raleigh 27611, by the 10th of the month prior to the month in which they are to appear. A "Request for Listing" form is available on request.

AUXILIARY TO THE NORTH CAROLINA MEDICAL SOCIETY

HB 540 STATUS REPORT

February 4, 1979

The failure of the Advisory Budget Commission to include expansion of the school health education bill (HB 540) in its report to the Legislature was a tremendous disappointment for the auxiliary. The eight programs begun after HB 540 was passed last June are programs of merit and should be expanded over the next 10 years.

The society and its auxiliary believe that even when state funds are short, more mileage is obtained through programs of prevention than those of primary care or treatment.

We continue to believe that the health of North Carolina will be improved by reaching children with programs which promote good health before they fall into poor health habits. We believe that the system of health coordinators (responsible to the school system, yet coordinating and using existing programs in the health departments and community) avoids duplication of money, efforts and resources.

Please call or write your local legislators about expansion of this program. Call it by name, "HB 540", and mention that it was sponsored by Rep. Clyde Auman. The following questions and answers should help you campaign for support of expanding HB 540.

(1) Are the medical society and the auxiliary trying to tell the teachers what to teach?

The Department of Public Instruction developed HB 540 in cooperation with members of the State Medical Society and its auxiliary. The general areas of nutrition, mental and emotional health, dental health, environmental health, family life, consumer health, disease control, growth and development, first aid and

emergency care are identified, but the comprehensive plan is not limited.

(2) Since good health is a value, how can it be taught?

Good health is indeed a value and must be presented by trained personnel in such a manner that a choice for good health will be attractive.

(3) Are you trying to force sex on the schools?

Sex education should be included in the proper setting of growth and development and family life. The local school health advisory board will review and approve the material, with the board in all cases including some parents and ministers.


(4) What is the role of the medical society in this legislation?

The medical society has never spoken out for legislation except that which was in the best interests of the people of North Carolina. We have supported legislation that would help reduce the high infant mortality in North Carolina. We think HB 540 is good for North Carolina children, born and unborn, and their parents. The society helped develop HB 540 and stands ready to help implement it.

(5) What is the relationship between health service and health education in the schools?

They should go hand in hand. The school food service

After specializing in the treatment of alcoholism and drug addiction for 17 years, we found . . .



**if there
are problems
and there
is drinking...
drinking
may be the
only problem!**

Willingway Hospital

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ce worker should provide proper examples in nutrition education; school nurses can work with educators on various aspects of health.

) Why can't nurses teach health?

Unfortunately, neither an M.D. nor R.N. degree includes courses in education. Both are excellent resource people, however. Would you like a certified teacher giving you shots?

) What will be the role of health educators in a public health department?

Having a local coordinator in the schools should increase activity in all phases of health education. Superintendents, who are asked for school time by many health groups, have frequently refused all groups because of lack of a screening mechanism. One survey reported that 30% of the school units used no resources, including the health departments.

) We hear a lot about accountability. How can health education be evaluated in terms of cost?

HB 540 provides a pyramid of responsibility and accountability for teachers of health education and the State Health Education consultant. We can never put a dollar saving on health education, but we believe it will help prevent illness, make healthier North Carolinians and improve services and reduce costs of dental health programs.

) What is the greatest health need among North Carolina children?

It is most apparent in dental health. The dental condition of children entering school attests that a high sugar intake has already been established. Although dental health education provided by health departments to children in the early grades (a legislative project of the N.C. Dental Society) is considered excellent, this education should be systematically enforced so that teenagers and future parents develop proper habits in nutrition and hygiene.

) Are there other school units with health projects besides those funded through HB 540? What is their status?

The Department of Public Instruction states that the only comprehensive programs are those developed under HB 540.

1) My grandfather lived to be 100; he drank and smoked and ate hog meat. He never had any frills like health education. What good are more frills for the schools?

HB 540 contains a built-in system of accountability and saves money by using existing resources. Health is certainly a necessity, not a frill. A recent publication (HEW, interestingly, relates poor health and certain types of anemia to classroom behavior and nutrition) reports that such children learn more slowly than their more fortunate contemporaries.

2) Why didn't you include representatives of other health groups in the writing of the bill?

We were advised by advocates of health education from other states who had been successful in health education legislation to keep the writing group small and the wording flexible and to limit the advisory group so that executive management would not be required.

(13) What was the single most effective measure in securing ratification for HB 540?

A mail-o-gram campaign by supporters to key legislators on the Budget Advisory Commission the weekend before passage. Other efforts contributing to success, according to legislators, were the bulldogging, monitoring and tenacity of the auxiliary membership. We cannot adequately describe the dedicated efforts of Rep. Clyde Auman whose advocacy of North Carolina children influenced many legislators to favor the bill.

(14) Why don't auxiliary members stay home and do church work and keep out of what's not their business?

For sometime the auxiliary has been an arm of the medical society working with the society for improved health, prevention of illness and cost reduction. We do our share of church work, but we see the need for such measures as HB 540 because we are wives and mothers. A parent, knowledgeable in health, is hard pressed to refute misinformation on health often coming from women's magazines. A teenage son of one auxiliary member was told that "all milk causes heart attacks." The son and his classmates switched to soft drinks — as many as 10 a day; when the mother remonstrated, the son said, "Don't worry, mom, we're bringing a keg to school today."

(15) Where do we go from here?

Write to the Advisory Budget Commission to recommend approval of the \$832,832 identified as EXPANSION BUDGET REQUEST OF D.P.I. (CODE 18041), SUBHEAD 1817-6673, entitled "STATE AID — HEALTH EDUCATION COORDINATORS."

MARTHA MARTINAT

Chairman, School Health Advisory Committee

News Notes from the—

BOWMAN GRAY SCHOOL OF MEDICINE WAKE FOREST UNIVERSITY

The Bowman Gray School of Medicine's Section on Neuropsychology has opened a biofeedback laboratory, with Mrs. Viola Ebert as its director.

Mrs. Ebert is coordinator of behavioral studies in the Section on Neuropsychology.

Patients who are approved as good candidates for biofeedback training attend approximately 10 weekly sessions in the laboratory. As the patient sits in a comfortable chair, special equipment measures such physical functions as muscle tension, surface body temperature and heart rate.

According to Mrs. Ebert, "With the proper training, persons can be taught to control the particular function that's being measured."

People with such problems as frequent migraine or tension headaches and recurring cramps of cold hands

and feet might be candidates for the laboratory's training.

* * *

Francis E. Garvin of Wilkesboro has been elected chairman of the Medical Center Board of Directors of the Bowman Gray School of Medicine and North Carolina Baptist Hospital.

He succeeds Leon L. Rice Jr. of Winston-Salem, who has been chairman of the board for the past two years.

Dr. Gloria F. Graham of Wilson was elected vice chairman, and E. Lee Cain of High Point was elected treasurer. Miss Katherine Davis of Winston-Salem was re-elected secretary.

The board, consisting of six trustees of Wake Forest University, six trustees of Baptist Hospital and a member of the professional staff of the medical center, is responsible for the overall supervision of the medical center.

* * *

The Department of Family Medicine and its Family Practice Center at Bowman Gray have developed a recommended schedule of health maintenance visits to the doctor from birth to old age.

The schedule, developed by Dr. James A. Burdette, professor of family medicine, and Dr. Charles H. Duckett, associate professor of family medicine, is not intended to be binding on either doctors or patients in the Family Practice Center. Instead, the schedule is supposed to be a guide, providing some clarity about health maintenance care from physicians.

In an era when there is some confusion among patients and physicians about what care healthy patients should receive from doctors, it was felt that clarity would benefit the Family Practice Center.

* * *

A pilot screening program to detect neural tube defects in Forsyth County is being conducted by the Section on Medical Genetics of Bowman Gray's Department of Pediatrics.

The program is sponsored by the North Carolina Division of Health Services in conjunction with Bowman Gray. Dr. Harriet Anderson, planning coordinator in the Section on Medical Genetics, is director of the program.

Open neural tube defect is the second most common birth defect in the United States and is the most common birth defect affecting the central nervous system.

A test to detect the protein, alpha-fetoprotein, in the mother's blood can uncover a large percentage of open neural tube defects in the fetus early in pregnancy.

The test is so new that Forsyth County is one of the few places in the nation where it is being conducted. Statewide screening for North Carolina is planned, with the Forsyth County program to serve as a model for the expanded program.

* * *

The Duke Endowment and the Kate B. Reynolds

Librax®

Each capsule contains 5 mg
chlordiazepoxide HCl and 2.5 mg clidinium Br

Please consult complete prescribing information, a summary of which follows:

Indications: Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FDA has classified the indications as follows.

"Possibly" effective as adjunctive therapy in the treatment of peptic ulcer and in the treatment of the irritable bowel syndrome (irritable colon, spastic colon, mucocolitis) and acute enterocolitis

Final classification of the less-than-effective indication requires further investigation.

Contraindications: Glaucoma, prostatic hypertrophy, bladder neck obstruction, hypersensitivity to chlordiazepoxide HCl and/or clidinium Br.

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants, and against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Physical and psychological dependence rarely reported on recommended doses, but caution in administering Librium® (chlordiazepoxide HCl) to known addiction-prone individuals or those who might increase dosage, withdrawal symptoms (including convulsions) reported following discontinuation of the drug.

Usage in Pregnancy: Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy. Advise patients to discuss therapy if they intend or do become pregnant.

As with all anticholinergics, inhibition of lactation may occur.

Precautions: In elderly and debilitated, limit dosage to least effective amount to preclude ataxia, oversedation, confusion (no more than 2 capsules/day initially; increase gradually as needed and tolerated). Though generally not recommended, if combination therapy with other psychotropic drugs seems indicated, carefully consider pharmacology of a particularly potentiating drugs such as MAO inhibitors, phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions reported in psychiatric patients. Employ usual precautions in treating anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation reported very rarely in patients receiving the drug and anticoagulants; causal relationship not established.

Adverse Reactions: No side effects or manifestations seen with either compound alone reported with Librax. chlordiazepoxide HCl is used alone, drowsiness, ataxia, confusion may occur, especially in elderly and debilitated; avoid in most cases by proper dosage adjustment, but occasionally observed at lower dosage ranges. Syncope reported in a few instances. Also encountered, isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent, usually controlled with dosage reduction; changes in EEG patterns may appear during and after treatment, blood dyscrasias (including agranulocytosis), jaundice, hepatic dysfunction reported occasionally with chlordiazepoxide HCl making periodic blood counts and liver function tests advisable during protracted therapy. Adverse effects reported with Librax typical of anticholinergic agents, i.e., dryness of mouth, blurring of vision, urinary hesitancy, constipation. Constipation has occurred most often when Librax therapy is combined with other spasmolytics and/or low residue diets.



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In treating irritable bowel syndrome*

Enhance your therapeutic expectations
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antianxiety/antispasmodic and motility

Librax is unique among OTC products in providing the specific antispasmodic action of LIBRIUM[®] (chlordiazepoxide HCl) and the potent antispasmodic and motility actions of QUARZAN[®] (clidinium Br). The combination of these two active ingredients provides the relief of irritable bowel syndrome.

ROCHE

*Librax has been demonstrated as possibly effective for this indication. Please see brief summary of prescribing information on preceding page.



The evidence of experience

Since October 1974 when Motrin® (ibuprofen) was introduced in the United States, it has been used by more than 6,000,000 patients with rheumatoid arthritis* or osteoarthritis. Rarely has an ethical pharmaceutical product been prescribed for so many patients in so short a time. In addition, more than 450 studies presenting new data related to Motrin have been published.

The 6,000,000 patients already treated with Motrin is an objective measure of physicians' confidence in the ability of Motrin to relieve the pain and inflammation associated with rheumatoid arthritis and osteoarthritis.

So it is not surprising that in this short period Motrin has become the most frequently prescribed alternative to aspirin. Motrin relieves joint pain and inflammation as effectively as indomethacin or aspirin, but causes significantly fewer CNS and milder GI reactions.

However, gastrointestinal bleeding, sometimes severe, has been associated with Motrin, aspirin, indomethacin, and other nonsteroidal antiarthritic agents.

*The safety and effectiveness of Motrin have not been established in patients with Functional Class IV rheumatoid arthritis (incapacitated, largely or wholly bedridden, or confined to wheelchair; little or no self-care).



Motrin[®] 400 mg TABLETS

ibuprofen, Upjohn

The confidence that comes from experience—
one more reason to prescribe Motrin.

Please turn page for a brief summary of prescribing information.

Upjohn

The Upjohn Company, Kalamazoo, Michigan 49001

The confidence that comes from experience—
one more reason to prescribe

Motrin 400 mg TABLETS

ibuprofen, Upjohn

Indications and Usage: Treatment of signs and symptoms of rheumatoid arthritis and osteoarthritis during acute flares and in long-term management. Safety and efficacy have not been established in Functional Class IV rheumatoid arthritis.

Contraindications: Individuals hypersensitive to it, or with the syndrome of nasal polyps, angioedema and bronchospastic reactivity to aspirin or other nonsteroidal anti-inflammatory agents (see WARNINGS).

Warnings: Anaphylactoid reactions have occurred in patients with aspirin hypersensitivity (see CONTRAINDICATIONS).

Peptic ulceration and gastrointestinal bleeding, sometimes severe, have been reported. Ulceration, perforation, and bleeding may end fatally. An association has not been established. Motrin should be given under close supervision to patients with a history of upper gastrointestinal tract disease, only after consulting ADVERSE REACTIONS.

In patients with active peptic ulcer and active rheumatoid arthritis, nonulcerogenic drugs, such as gold, should be tried. If Motrin must be given, the patient should be under close supervision for signs of ulcer perforation or gastrointestinal bleeding.

Precautions: Blurred and/or diminished vision, scotomata, and/or changes in color vision have been reported. If these develop, discontinue Motrin and the patient should have an ophthalmologic examination, including central visual fields.

Fluid retention and edema have been associated with Motrin; use with caution in patients with a history of cardiac decompensation.

Motrin can inhibit platelet aggregation and prolong bleeding time. Use with caution in persons with intrinsic coagulation defects and those on anticoagulant therapy.

Patients should report signs or symptoms of gastrointestinal ulceration or bleeding, blurred vision or other eye symptoms, skin rash, weight gain, or edema.

To avoid exacerbation of disease or adrenal insufficiency, patients on prolonged corticosteroid therapy should have therapy tapered slowly when Motrin is added.

Drug interactions. Aspirin used concomitantly may decrease Motrin blood levels.

Coumarin: Bleeding has been reported in patients taking Motrin and coumarin.

Pregnancy and nursing mothers: Motrin should not be taken during pregnancy or by nursing mothers.

Adverse Reactions

Incidence greater than 1%

Gastrointestinal: The most frequent type of adverse reaction occurring with Motrin (ibuprofen) is gastrointestinal (4% to 16%). This includes nausea*, epigastric pain*, heartburn*, diarrhea, abdominal distress, nausea and vomiting, indigestion, constipation, abdominal cramps or pain, fullness of the GI tract (bloating and flatulence). **Central Nervous System:** Dizziness*, headache, nervousness. **Dermatologic:** Rash* (including maculopapular type), pruritus. **Special Senses:** Tinnitus. **Metabolic:** Decreased appetite, edema, fluid retention. Fluid retention generally responds promptly to drug discontinuation (see PRECAUTIONS).

Incidence: Unmarked 1% to 3%, *3% to 9%.

Incidence less than 1 in 100

Gastrointestinal: Upper GI ulcer with bleeding and/or perforation, hemorrhage, melena. **Central Nervous System:** Depression, insomnia. **Dermatologic:** Vesiculobullous eruptions, urticaria, erythema multiforme. **Cardiovascular:** Congestive heart failure in patients with marginal cardiac function, elevated blood pressure. **Special Senses:** Amblyopia (see PRECAUTIONS). **Hematologic:** Leukopenia, decreased hemoglobin and hematocrit.

Causal relationship unknown

Gastrointestinal: Hepatitis, jaundice, abnormal liver function. **Central Nervous System:** Paresthesias, hallucinations, dream abnormalities. **Dermatologic:** Alopecia, Stevens-Johnson syndrome. **Special Senses:** Conjunctivitis, diplopia, optic neuritis. **Hematologic:** Hemolytic anemia, thrombocytopenia, granulocytopenia, bleeding episodes. **Allergic:** Fever, serum sickness, lupus erythematosus syndrome. **Endocrine:** Gynecomastia, hypoglycemia. **Cardiovascular:** Arrhythmias. **Renal:** Decreased creatinine clearance, polyuria, azotemia.

Overdosage: In cases of acute overdosage, the stomach should be emptied. The drug is acidic and excreted in the urine, so alkaline diuresis may be beneficial.

Dosage and Administration: Suggested dosage is 300 or 400 mg t.i.d. or q.i.d. Do not exceed 2400 mg per day.

How Supplied

Motrin Tablets, 300 mg (white)

Bottles of 60

Bottles of 500

Motrin Tablets, 400 mg (orange)

Bottles of 60

Bottles of 500

Unit-dose package of 100

Unit of Use bottles of 120

Caution: Federal law prohibits dispensing without prescription.

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TABLETS: 500 mg, 250 mg, and 125 mg

Health Care Trust each has awarded grants of 150,000 to North Carolina Baptist Hospital to be used for the renovation of existing hospital space and for equipping a new burn unit.

The six-bed unit, scheduled to open in late summer, will be located in space formerly occupied as a labor and delivery suite. The space was made available when obstetrical services in Forsyth County were consolidated at Forsyth Memorial Hospital.

* * *

North Carolina Baptist Hospital's program for the care and treatment of cancer patients had been certified for a three-year period by the American College of Surgeons.

Approval by the college's Commission on Cancer certifies that the hospital's clinical program is organized in such a way as to provide high quality care for the cancer patient.

* * *

Dr. Marvin B. Sussman, professor of sociology at Bowman Gray, has accepted an invitation by Gov. James Hunt to be chairman of the Task Force on Children, Adolescents and Family.

The task force, part of the Governor's Conference on Mental Health, will present policy recommendations during a statewide conference in the spring.

Sussman also has been appointed a consultant to the Division of Medicine of the Bureau of Health Manpower. He will help review applications requesting federal funds for family medicine residency programs.

The National Academy of Sciences has asked Sussman and Dr. Ethel Shanas of the University of Illinois to prepare a paper on family, aging and the implications of policies relating to the family and aging.

* * *

Dr. Eben Alexander Jr., professor of neurosurgery, has been appointed to the Executive Committee of the Forsyth County Medical Society. He also has been elected chairman of the Interspecialty Advisory Board of the American Medical Association.

* * *

Dr. Courtland H. Davis Jr., professor of neurosurgery, has been elected vice chairman of the Foundation for International Education in Neurological Surgery, Inc.

* * *

Kate B. Garner, instructor in human development, has been appointed as the medical school's representative to the Coalition on Sexually Transmitted Diseases.

* * *

Dr. Anne Herndon, assistant professor of psychology and family medicine, has been appointed to the

Mental Health Committee of the National Hemophilia Foundation.

* * *

Dr. Joseph E. Johnson III, professor and chairman of the Department of Medicine, has been appointed to the Working Group on Financing of Graduate Medical Education for the Association of American Medical Colleges Task Force.

* * *

Dr. Philip W. Landfield, assistant professor of physiology, has been appointed chairman of the subcommittee on intraspecies comparisons of brain aging for the National Academy of Science task force on animal models of aging.

* * *

Dr. Jesse H. Meredith, professor of surgery, is serving on the North Carolina Hospital Association's Steering Committee for the Voluntary Effort on Cost Containment.

Dr. Richard C. Proctor, professor and chairman of the Department of Psychiatry, has been elected a Life Fellow of the American Psychiatric Association.

* * *

Dr. Charles L. Spurr, professor of medicine and director of Bowman Gray's Oncology Research Center, has received the American Cancer Society's National Distinguished Service Award.

News Notes from the

UNIVERSITY OF NORTH CAROLINA- CHAPEL HILL SCHOOL OF MEDICINE AND NORTH CAROLINA MEMORIAL HOSPITAL

North Carolina Memorial Hospital is offering a new training program, "Introduction to Care of the Burned Patient," for intensive care nurses from other hospitals.

Dr. Roger Salisbury, director of the N.C. Jaycee Burn Center, said the three-week course is being offered both to create interest in treating burned patients and to help improve patient care in North Carolina.

* * *

David H. Smith, a bio-medical engineering and mathematics student, presented "A Microprocessor System to Noninvasively Measure Blood Pressure" at the Tenth Annual Conference of the Society for Advanced Medical Systems, held in conjunction with the 31st Annual Conference on Engineering in Medicine and Biology.

Dr. Joseph S. Pagano, director of the Cancer Research Center, presented "The Epstein Barr Virus: New Molecular and Pathobiologic Leads" at the North Carolina Branch of the American Society of Microbiology meeting at the Burroughs Wellcome Company.

* * *

Dr. Joel B. Baseman, bacteriology and immunology, received the Sherwood Lectureship Award from the University of Kansas for his research achievements in clarifying the molecular pathogenesis of microbial diseases.

* * *

Dr. Ronald G. Thurman, pharmacology, attended a "Conference on the Development of Animal Models as Pharmacogenetic Tools in Substance Abuse Research" in Boulder, Colo. Thurman also participated in a Task Force on the selection of phenotypes for alcohol research.

* * *

Dr. Richard V. Wolfenden, biochemistry, presented the opening lecture to the Enzyme Mechanism Conference at La Jolla, Calif.

* * *

Barbara A. McHugh, R.N., education consultant with the Rehabilitation Center Planning Office, Medical Allied Health Professions, presented "Rehabilitation Nursing Concepts and Philosophy" and Dorothy Burford, R.N., M.P.H., clinical rehabilitation specialist, rehabilitation unit, presented "Rehabilitation Assessment and Problem Identification" at the University of South Carolina College of Nursing.

McHugh has also been elected president of the Association of Rehabilitation Nurses and chairman-elect of the Rehabilitation Nursing Institute, created by the association's board of directors to coordinate and develop educational activities and research.

* * *

Dr. Rosemary S. Hunter, assistant professor of psychiatry and pediatrics, has been appointed assistant dean for student affairs in the School of Medicine. She will be especially involved with defining and meeting the needs of women students.

A child psychiatrist who has been on the faculty of the medical school since 1975, Hunter was graduated with honors from the University of Washington School of Medicine in Seattle. She first came to UNC-CH for postgraduate training in psychiatry and in 1973 was named a fellow in child psychiatry.

* * *

Dr. David G. Kaufman, an associate professor of pathology, biochemistry and nutrition, has received a five-year, \$30,000 Research Career Development Award from the National Cancer Institute to study the relationship between the growth of cells and the sus-

ceptibility of cells to chemical carcinogens. Kaufman, 35, holds an M.D. degree and a Ph.D. degree in experimental pathology, both from Washington University in St. Louis.

* * *

Appointments

New faculty are: Brian J. Lalone, assistant professor, physiology; William R. Marshall, assistant professor, family medicine; and Kenny D. McCarthy, assistant professor, pharmacology.

Lalone, whose appointment was effective Feb. 1, was a research associate in the department of physiology at the University of Arizona. Since 1977, he has been a young investigator for the National Institutes of Health. He also has been an NIH cardiovascular trainee and a graduate assistant at Michigan State University where he received his Ph.D.

Marshall has been a senior staff member of the Lehigh County Youth Development Service and last year served as a clinical intern at the University of Kentucky Medical Center. He received his M.S. and Ph.D. from Auburn University.

McCarthy came to Chapel Hill from the University of California at Los Angeles, where he had been a UCLA mentor, a lecturer and an NIH fellow. He earned his Ph.D. at the University of Utah College of Medicine.

News Notes from the—

DUKE UNIVERSITY MEDICAL CENTER

The Jordan Ward, a new 20-bed inpatient unit for cancer patients, was dedicated at ceremonies on the ward Feb. 23.

Located on the top level of the Edwin A. Morris Clinical Cancer Research Building, part of Duke Comprehensive Cancer Center, the ward was named for the late U.S. Sen. B. Everett Jordan of Saxapahaw.

The family of the senator, who was a victim of cancer in 1974, made a \$100,000 commitment to help establish the ward. Before his death, Sen. Jordan and his wife also established the B. Everett Jordan Medical Scholarship Endowment Fund with a \$50,000 gift to the School of Medicine.

* * *

John Karis, son of Dr. Joannes H. Karis, professor of anesthesiology, has won national honors in the Westinghouse Science Talent Search for his invention of a device used to make heart surgery safer.

The instrument, in use at Duke since Christmas 1977, assures physicians that electrical interference caused by faulty electrode connections will not disrupt heart monitoring during operations.

Now a high school senior, 17-year-old Karis was one of 40 winners nationwide who will go to Wash-

ington to compete for science scholarships and awards.

Karis also was a finalist in the 1978 North Carolina Senior Science and Humanities Symposium with the electronic safety device.

* * *

Dr. Allen D. Roses, associate professor and chief of the Division of Neurology, was invited guest lecturer at the Membrane Group Workshop of the Muscular Dystrophy Group of Great Britain.

The workshop took place at the Royal Free Hospital School of Medicine in London.

A dinner, in honor of Roses, was hosted at the Athenaeum Club by Professor Sir John Walton and Professor Sir Andrew Huxley.

While in England, Roses was visiting professor at the University of Newcastle-upon-Tyne and the Postgraduate Medical School, Hammersmith Hospital, London.

* * *

Dr. John P. Grant, assistant professor of surgery, presented a paper on "Central Venous Cannulation of New Born Infants" during a Clinical Congress of the American Society of Parenteral and Enteral Nutrition. Grant, who is director of the medical center's Nutritional Support Service, has prepared a "Handbook on Total Parental Nutrition," to be published this spring.

Dr. James Bobula and Katharine Munning, assistant professors of community and family medicine, recently conducted a three-day workshop, "Using Written Simulations to Assess Student Performance," for 23 allied health educators from around the country.

The workshop was the second in a series on evaluation in allied health professions education sponsored by the University of North Carolina with funding from the Department of Health, Education and Welfare.

* * *

Looking toward the probability of increased need for private support of the medical center, the Davison Club has expanded its program.

The option of life membership in the organization is now offered. To become a life member of the Davison Club, a donor organization founded in 1968, one makes a financial commitment of \$25,000 over a maximum of 10 years.

An endowment fund in the name of the contributor is established, with the income being added to the unrestricted funds provided by the Davison Club.

Currently there are 10 life members, including three medical school alumni and two members of the medical center community.

The first medical center life members are John D. Shytle, assistant vice president for health affairs-administration, and Lois Shytle, his wife. Each has

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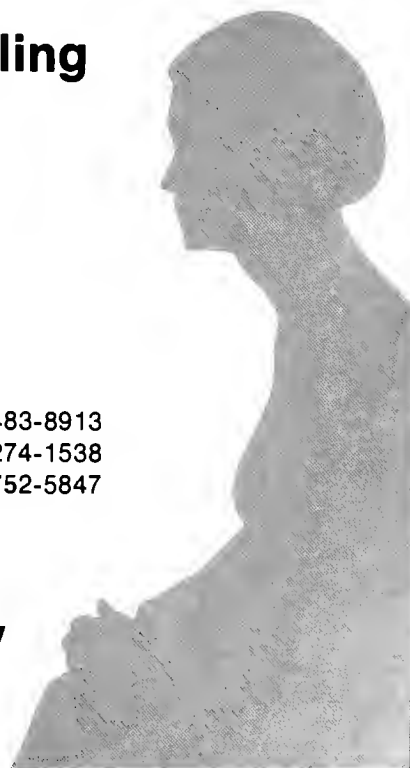
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Greensboro (919) 274-1538
Greenville (919) 752-5847

Wilmington (919) 763-9727



**The Children's Home Society
of N.C.**

founded in 1903



committed \$25,000 to the Davison Club endowment fund.

The other life members of the Davison Club to date are Dr. William McAnnally Jr. ('34, M.D. '39) of High Point, Dr. Calvin H. Mitchell (M.D. '58) of Tampa, Fla., Dr. R. McIntire Bridges (M.D. '53) of Minden, La., Loren M. Berry and Ruth Berry of Dayton, Ohio, Edwin T. Ferren III of Haddonfield, N.J., Dr. Douglas G. Kelling of Concord and Dr. Daniel S. Meister of Hollywood, Fla.

News Notes from the—

EAST CAROLINA UNIVERSITY SCHOOL OF MEDICINE

Dr. Leonard Stanley English, a microbiologist at the ECU School of Medicine, has received a \$149,000 grant to study the immune response to learn more about the lymphocyte response to foreign proteins. He hopes to isolate and determine the structure and function of the helper and suppressor molecules involved in the process.

English studies the response in sheep by cannulating the post lymph nodes of the lymphatic system, a technically difficult procedure performed at few laboratories in the world.

The project is funded by the National Institute of Allergy and Infectious Disease.

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Investigators at the ECU School of Medicine are conducting research on experimental animal models to learn more about the pathologic changes that occur during the development of rheumatoid arthritis. Dr. Alvin Volkman, professor of pathology, is principal investigator for the project supported by a four-year \$332,000 grant from the National Institute of Arthritis, Metabolism and Digestive Diseases.

Salmonella are used in the study to trigger the series of events which result in damaging inflammation of the joints resembling rheumatoid arthritis seen in humans

* * *

Dr. Lawrence S. Harris, forensic pathologist, has been appointed Pitt County medical examiner and regional pathologist for Pitt, Martin, Washington and Greene counties. The appointment was made by state medical examiner Dr. Page Hudson.

Three other members of the School of Medicine's pathology department — Drs. Seymour Bakerman, Robert Hanrahan and Alvin Volkman — are serving as relief examiners.

* * *

Dr. Robert Fulghum, associate professor of microbiology, has been awarded a \$10,000 grant from the Deafness Research Foundation to study anaerobes in the middle ear during otitis media. The purpose of the project is to determine if anaerobic organisms cause otitis or are natural inhabitants of the middle ear.

To study the problem, Fulghum and his colleague will introduce mixtures of the organisms into chinchillas, an animal previously used as a model for otitis media.

* * *

Dr. Sam N. Pennington, associate professor of biochemistry, has received a \$17,000 grant from the N.C. Alcoholism Research Authority to study the effects of alcohol on fetal development. He will be investigating the influence of alcohol on prostaglandin metabolism in pregnant female animals.

In a previous project also funded by the state alcoholism authority, Pennington found that chronic consumption of alcohol inhibited prostaglandin metabolism in male rats and guinea pigs. In his current study, he will determine whether alcohol interferes with the normal growth and development of the fetus in experiments simulating the antecedents of the fetal alcohol syndrome in human offspring.

* * *

Neuroanatomist James D. Fix has been appointed associate professor of anatomy and will coordinate the neuroscience program in the undergraduate medical education curriculum.

Fix formerly was associate professor of anatomy and pathology at the Indiana University School of Medicine. He has also held faculty appointments in anatomy and ophthalmology at the University of Louisville School of Medicine.

He received his undergraduate degree from the University of Delaware and continued postgraduate studies at the University of Wuerzburg, the Max Planck Institute for Brain Research and the University of Tuebingen, where he earned his Ph.D. degree.

He did postdoctoral studies in neurophthalmology at the University of Louisville, Indiana University School of Medicine and the Bascom Palmer Eye Institute, University of Miami School of Medicine.

AMERICAN ORTHOPAEDIC FOOT SOCIETY, INC.

Dr. J. Leonard Goldner of Durham was elected president of the American Orthopaedic Foot Society at the organization's annual meeting in February in San Francisco.

He is professor of orthopaedic surgery and chairman of the division of orthopaedic surgery at Duke University Medical Center in Durham.

An affiliate of the American Academy of Orthopaedic Surgeons, the society is comprised of orthopaedic surgeons interested in improved foot care through research and education.

Goldner, a former president of the Southern Medical Association, the American Society for Surgery of the Hand and the North Carolina Orthopaedic Association, received the Governor's Award as Physician of the Year for the State of North Carolina in 1967.

A native of Omaha, he received the A.B. degree in 1939 from the University of Minnesota and the M.D. degree in 1943 from the University of Nebraska College of Medicine.

DERMATOLOGY FOUNDATION

The Dermatology Foundation's 1978 Clark W. Finnerud Award for contributions as a teacher-clinician in dermatology has been awarded posthumously to Dr. Joseph M. Hitch.

Dr. Hitch, who died last October, was a graduate of the University of Virginia and served on the dermatology faculty at the University of North Carolina School of Medicine at Chapel Hill for 23 years. He maintained a private practice in Raleigh. He held offices in numerous local and professional societies and wrote extensively in the field.

The Clark W. Finnerud Award was established by the Dermatology Foundation in 1971 to honor outstanding clinicians who contribute their time and skills to teaching dermatology. The award was named for the late Dr. Clark W. Finnerud, himself a dedicated teacher and clinician, who served the field for 47 years.

Dr. Hitch was nominated for the award by many of his former students and colleagues.

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE PUBLIC HEALTH SERVICE CENTER FOR DISEASE CONTROL ATLANTA, GEORGIA 30333

GONORRHEA

CDC Recommended Treatment Schedules, 1978

Note: Physicians are cautioned to use no less than the recommended dosages of antibiotics.

UNCOMPLICATED GONOCOCCAL INFECTIONS IN MEN AND WOMEN

Drug Regimens of Choice

Aqueous procaine penicillin G (APPG) 4.8 million units injected intramuscularly at two sites, with 1.0 g of probenecid by mouth.

or

Tetracycline hydrochloride* 0.5 g by mouth 4 times a day for 5 days (total dosage 10.0 g). Other tetracyclines are not more effective than tetracycline hydrochloride. All tetracyclines are ineffective as a single-dose therapy.

or

Ampicillin 3.5 g, or amoxicillin 3.0 g, either with 1 g probenecid by mouth. Evidence shows that these regimens are slightly less effective than the other recommended regimens.

Patients who are allergic to the penicillins or probenecid should be treated with oral tetracycline as above. Patients who cannot tolerate tetracycline may be treated with spectinomycin hydrochloride 2.0 g in one intramuscular injection.

Special Considerations

—Single-dose treatment is preferred in patients who are unlikely to complete the multiple-dose tetracycline regimen.

—The APPG regimen is preferred in men with anorectal infection.

—Pharyngeal infection is difficult to treat; high failure rates have been reported with ampicillin and spectinomycin.

—Tetracycline treatment results in fewer cases of postgonococcal urethritis in men.

—Tetracycline may eliminate coexisting chlamydial infections in men and women.

—Patients with incubating syphilis (seronegative, without clinical signs of syphilis) are likely to be cured by all the above regimens except spectinomycin. All

*Food and some dairy products interfere with absorption. Oral forms of tetracycline should be given 1 hour before or 2 hours after meals.

These recommendations were established after deliberation with these therapy consultants:

Harold C. Neu, M.D., College of Physicians and Surgeons, Columbia University; Erwin H. Bruff, M.D., San Francisco Department of Public Health; Gary Cunningham, M.D., Southwestern Medical School, Dallas; King K. Holmes, M.D., Ph.D., USPHS Hospital, Seattle; Franklin Judson, M.D., Department of Health and Hospitals, Denver; William McCormack, M.D., State Laboratory Institute, Boston; Edwin M. Mears, Jr., M.D., New England Medical Center, Boston; John D. Nelson, M.D., Southwestern Medical School, Dallas; Morton Nelson, M.D., Orange County, California; Suzanne M. Sgroi, M.D., Suffield, Conn.; Frederick Sparling, M.D., School of Medicine, The University of North Carolina, Chapel Hill; Lt. Col. Edmund C. Tramont, Walter Reed Army Medical Center, Washington, D.C.

patients should have a serologic test for syphilis at the time of diagnosis.

—Patients with gonorrhea who also have syphilis or are established contacts to syphilis should be given additional treatment appropriate to the stage of syphilis.

Treatment of Sexual Partners

Men and women exposed to gonorrhea should be examined, cultured and treated at once with one of the regimens above.

Followup

Followup cultures should be obtained from the infected site(s) 3-7 days after completion of treatment. Cultures should be obtained from the anal canal of all women who have been treated for gonorrhea.

Treatment Failures

The patient who fails therapy with penicillin, ampicillin, amoxicillin, or tetracycline should be treated with 2.0 g of spectinomycin intramuscularly.

Most recurrent infections after treatment with the recommended schedules are due to *reinfection* and indicate a need for improved contact tracing and patient education. Since infection by penicillinase (β -lactamase)-producing *Neisseria gonorrhoeae* is a cause of treatment failure, posttreatment isolates should be tested for penicillinase production.

Not Recommended

Although long-acting forms of penicillin (such as benzathine penicillin G) are effective in syphilis therapy, they have NO place in the treatment of gonorrhea. Oral penicillin preparations such as penicillin V are not recommended for the treatment of gonococcal infection.

ACUTE SALPINGITIS (PELVIC INFLAMMATORY DISEASE)

There are no reliable clinical criteria on which to distinguish gonococcal from nongonococcal salpingitis. Endocervical cultures for *N. gonorrhoeae* are essential. Therapy should be initiated immediately.

A. Hospitalization should be strongly considered in these situations:

1. Uncertain diagnosis, in which surgical emergencies such as appendicitis and ectopic pregnancy must be excluded.
2. Suspicion of pelvic abscess.
3. Severely ill patients.
4. Pregnancy.
5. Inability of the patient to follow or tolerate an outpatient regimen.
6. Failure to respond to outpatient therapy.

B. Antimicrobial Agents

Outpatients

Tetracycline* 0.5 g taken orally 4 times a day for

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DOSAGE AND ADMINISTRATION: Usual dose is one or two capellets twice daily with or after meals. Since lower doses may control hyperlipidemia in some patients, the dosage should be individualized according to the effect on serum lipid levels. It is also to be noted that adverse reactions appear with greater frequency early in therapy; in order to avoid these it may be best to start the drug at low levels and increase dosage gradually.

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ys. This regimen should not be used for pregnant patients.

or

APPG 4.8 million units intramuscularly, ampicillin 5 g or amoxicillin 3.0 g each with probenecid 1.0 g. Either regimen is followed by ampicillin 0.5 g or noxicillin 0.5 g orally 4 times a day for 10 days.

ospitalized patients

Aqueous crystalline penicillin G 20 million units ven intravenously each day until improvement occurs, followed by ampicillin 0.5 g orally 4 times a day complete 10 days of therapy.

or

Tetracycline* 0.25 g given intravenously 4 times a ay until improvement occurs, followed by 0.5 g orally times a day to complete 10 days of therapy. This regimen should not be used for pregnant women. The dosage may have to be adjusted if renal function is epressed.

Since optimal therapy for hospitalized patients has ot been established, other antibiotics in addition to enicillin are frequently used.

. Special Considerations

—Failure of the patient to improve on the recommended regimens does not indicate the need for stepise additional antibiotics but requires clinical reassessment.

—The intrauterine device is a risk factor for the development of pelvic inflammatory disease. The effect of removing an intrauterine device on the response of acute salpingitis to antimicrobial therapy and on the risk of recurrent salpingitis is unknown.

—Adequate treatment of women with acute salpinitis must include examination and appropriate treatment of their sex partners because of their high prevalence of nonsymptomatic urethral infection. Failure to treat sex partners is a major cause of recurrent onococcal salpingitis.

—Followup of patients with acute salpingitis is essential during and after treatment. All patients should e recultured for *N. gonorrhoeae* after treatment.

ENICILLINASE-PRODUCING

ISSERIA GONORRHOEAE (PPNG)

Patients with uncomplicated PPGN infections and their sexual contacts should receive spectinomycin 0.0 g intramuscularly in a single injection. Because onococci are very rarely resistant to spectinomycin and reinfection is the most common cause of treatment failure, patients with positive cultures after pectinomycin therapy should be re-treated with the ame dose.

A PPNG isolate that is resistant to spectinomycin may be treated with cefoxitin 2.0 g in a single intramuscular injection, with probenecid 1.0 g by outh.

REATMENT IN PREGNANCY

All pregnant women should have endocervical cultures for gonococci as an integral part of the prenatal

care at the time of the first visit. A second culture late in the third trimester should be obtained from women at high risk for gonococcal infection.

Drug regimens of choice are APPG, ampicillin or amoxicillin, each with probenecid as described above.

Women who are allergic to penicillin or probenecid should be treated with spectinomycin.

Refer to the sections on acute salpingitis and disseminated gonococcal infections for the treatment of these conditions during pregnancy. Tetracycline should not be used in pregnant women because of potential toxic effects for mother and fetus.

ACUTE EPIDIDYMITIS

Acute epididymitis can be caused by *N. gonorrhoeae*, *Chlamydia* or other organisms. If gonococci are demonstrated by Gram stain or culture of urethral secretions, treatment should be:

APPG 4.8 million units, ampicillin 3.5 g or amoxicillin 3.0 g, each with probenecid 1.0 g. Either regimen is followed by ampicillin 0.5 g or amoxicillin 0.5 g orally 4 times a day for 10 days.

or

Tetracycline* 0.5 g orally 4 times a day for 10 days.

If gonococci are not demonstrated, the above tetracycline regimen should be used.

DISSEMINATED GONOCOCCAL INFECTION

A. Equally effective treatment schedules in the arthritis-dermatitis syndrome include:

Ampicillin 3.5 g or amoxicillin 3.0 g orally, each with probenecid 1.0 g, followed by ampicillin 0.5 g or amoxicillin 0.5 g 4 times a day orally for 7 days.

or

Tetracycline* 0.5 g orally 4 times a day for 7 days. Tetracycline should not be used for complicated gonococcal infection in pregnant women.

or

Spectinomycin 2.0 g intramuscularly twice a day for 3 days (treatment of choice for disseminated infections caused by PPNG).

or

Erythromycin 0.5 g orally 4 times a day for 7 days.

or

Aqueous crystalline penicillin G 10 million units intravenously per day until improvement occurs, followed by ampicillin 0.5 g 4 times a day to complete 7 days of antibiotic treatment.

B. Special Considerations

—Hospitalization is indicated in patients who may be unreliable, have uncertain diagnosis, or have purulent joint effusions or other complications.

—Open drainage of joints other than the hip is not indicated.

—Intra-articular injection of antibiotics is unnecessary.

C. Meningitis and endocarditis caused by the gonococcus require high-dose intravenous penicillin therapy. In

penicillin-allergic patients with endocarditis, desensitization and administration of penicillin is indicated; chloramphenicol may be used in penicillin-allergic patients with meningitis.

GONOCOCCAL INFECTIONS IN PEDIATRIC PATIENTS

With gonococcal infections in children beyond the newborn period the possibility of sexual abuse must be considered. Genital, anal and pharyngeal cultures should be obtained from all patients before antibiotic treatment. Appropriate cultures should be obtained from individuals who have had contact with the child.

PREVENTION OF GONOCOCCAL OPHTHALMIA

When required by State legislation or indicated by local epidemiologic considerations, effective and acceptable regimens for prophylaxis of neonatal gonococcal ophthalmia include:

Ophthalmic ointment or drops containing tetracycline or erythromycin.

or

One percent silver nitrate solution.

Special Considerations

—Bacitracin is not recommended.

—The value of irrigation after application of silver nitrate is unknown.

MANAGEMENT OF INFANTS BORN TO MOTHERS WITH GONOCOCCAL INFECTION

The infant born to a mother with gonorrhea is at high risk of infection and requires treatment with a single intravenous or intramuscular injection of aqueous crystalline penicillin G 50,000 units to full-term infants or 20,000 units to low-birth-weight infants. Topical prophylaxis for neonatal ophthalmia is not adequate treatment. Clinical illness requires additional treatment.

NEONATAL DISEASE

A. Gonococcal Ophthalmia: Patients should be hospitalized and isolated for 24 hours after initiation of treatment. Untreated gonococcal ophthalmia is highly contagious. Aqueous crystalline penicillin G 50,000 units/kg/day in 2 doses intravenously should be administered for 7 days. Saline irrigation of the eyes should be performed as needed. Topical antibiotic preparations alone are not sufficient or required when appropriate systemic antibiotic therapy is given.

B. Complicated Infection: Patients with arthritis and septicemia should be hospitalized and treated with aqueous crystalline penicillin G 75,000 to 100,000 units/kg/day intravenously in 2 or 3 divided doses for 7 days. Meningitis should be treated with aqueous crystalline penicillin G 100,000 units/kg/day, divided into 3 or 4 intravenous doses, and continued for at least 10 days.

CHILDHOOD DISEASE

Children who weigh 100 lbs. (45 kg) or more should

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Tenuate Dospan®

(diethylpropion hydrochloride NF) controlled-release

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Brief Summary

INDICATION: Tenuate and Tenuate Dospan are indicated in the management of exogenous obesity as a short-term adjunct (a few weeks) in a regimen of weight reduction based on caloric restriction. The limited usefulness of agents of this class should be measured against possible risk factors inherent in their use such as those described below.

CONTRAINDICATIONS: Advanced arteriosclerosis, hyperthyroidism, known hypersensitivity, or idiosyncrasy to the sympathomimetic amines, glaucoma. Agitated states. Patients with a history of drug abuse. During or within 14 days following the administration of monoamine oxidase inhibitors, (hypertensive crises may result).

WARNINGS: If tolerance develops, the recommended dose should not be exceeded in an attempt to increase the effect; rather, the drug should be discontinued. Tenuate may impair the ability of the patient to engage in potentially hazardous activities such as operating machinery or driving a motor vehicle, the patient should therefore be cautioned accordingly. **Drug Dependence:** Tenuate has some chemical and pharmacologic similarities to the amphetamines and other related stimulant drugs that have been extensively abused. There have been reports of subjects becoming psychologically dependent on diethylpropion. The possibility of abuse should be kept in mind when evaluating the desirability of including a drug as part of a weight reduction program. Abuse of amphetamines and related drugs may be associated with varying degrees of psychological dependence and social dysfunction which, in the case of certain drugs, may be severe. There are reports of patients who have increased the dosage to many times that recommended. Abrupt cessation following prolonged high dosage administration results in extreme fatigue and mental depression, changes are also noted on the sleep EEG. Manifestations of chronic intoxication with anorectic drugs include severe dermatoses, marked insomnia, irritability, hyperactivity, and personality changes. The most severe manifestation of chronic intoxications is psychosis, often clinically indistinguishable from schizophrenia. **Use in Pregnancy:** Although rat and human reproductive studies have not indicated adverse effects, the use of Tenuate by women who are pregnant or may become pregnant requires that the potential benefits be weighed against the potential risks. **Use in Children:** Tenuate is not recommended for use in children under 12 years of age.

PRECAUTIONS: Caution is to be exercised in prescribing Tenuate for patients with hypertension or with symptomatic cardiovascular disease, including arrhythmias. Tenuate should not be administered to patients with severe hypertension. Insulin requirements in diabetes mellitus may be altered in association with the use of Tenuate and the concomitant dietary regimen. Tenuate may decrease the hypotensive effect of guanethidine. The least amount feasible should be prescribed or dispensed at one time in order to minimize the possibility of overdose. Reports suggest that Tenuate may increase convulsions in some epileptics. Therefore, epileptics receiving Tenuate should be carefully monitored. Titration of dose or discontinuance of Tenuate may be necessary.

ADVERSE REACTIONS: **Cardiovascular:** Palpitation, tachycardia, elevation of blood pressure, precordial pain, arrhythmia. One published report described T-wave changes in the ECG of a healthy young male after ingestion of diethylpropion hydrochloride. **Central Nervous System:** Overstimulation, nervousness, restlessness, dizziness, jitteriness, insomnia, anxiety, euphoria, depression, dysphoria, tremor, dyskinesia, mydriasis, drowsiness, malaise, headache; rarely psychotic episodes at recommended doses. In a few epileptics an increase in convulsive episodes has been reported. **Gastrointestinal:** Dryness of the mouth, unpleasant taste, nausea, vomiting, abdominal discomfort, diarrhea, constipation, other gastrointestinal disturbances. **Allergic:** Urticaria, rash, ecchymosis, erythema. **Endocrine:** Impotence, changes in libido, gynecomastia, menstrual upset. **Hematopoietic System:** Bone marrow depression, agranulocytosis, leukopenia. **Miscellaneous:** A variety of miscellaneous adverse reactions has been reported by physicians. These include complaints such as dyspnea, hair loss, muscle pain, dysuria, increased sweating, and polyuria.

DOSEAGE AND ADMINISTRATION: Tenuate (diethylpropion hydrochloride): One 25 mg. tablet three times daily, one hour before meals, and in mid-evening if desired to overcome night hunger. Tenuate Dospan (diethylpropion hydrochloride) controlled-release: One 75 mg. tablet daily, swallowed whole, in mid-morning. Tenuate is not recommended for use in children under 12 years of age.

OVERDOSAGE: Manifestations of acute overdose include restlessness, tremor, hyperreflexia, rapid respiration, confusion, assaultiveness, hallucinations, panic states. Fatigue and depression usually follow the central stimulation. Cardiovascular effects include arrhythmias, hypertension or hypotension and circulatory collapse. Gastrointestinal symptoms include nausea, vomiting, diarrhea, and abdominal cramps. Overdose of pharmacologically similar compounds has resulted in fatal poisoning, usually terminating in convulsions and coma. Management of acute Tenuate intoxication is largely symptomatic and includes lavage and sedation with a barbiturate. Experience with hemodialysis or peritoneal dialysis is inadequate to permit recommendation in this regard. Intravenous phenolamine (Regitine®) has been suggested on pharmacologic grounds for possible acute, severe hypertension, if this complicates Tenuate overdose.

Product Information as of April, 1976

MERRELL-NATIONAL LABORATORIES Inc.

Cayey, Puerto Rico 00633

Direct Medical Inquiries to:

MERRELL-NATIONAL LABORATORIES

Division of Richardson-Merrell Inc.

Cincinnati, Ohio 45215, U.S.A.

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References: 1. Citations available on request—Medical Research Department, MERRELL RESEARCH CENTER, MERRELL-NATIONAL LABORATORIES, Cincinnati, Ohio 45215. 2. Hoekenga, M.T., O'Dillon, R.H., and Leyland, H.M.: A Comprehensive Review of Diethylpropion Hydrochloride. International Symposium on Central Mechanisms of Anorectic Drugs, Florence, Italy, Jan. 20-21, 1977.

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B-3921 (Y587A)

**Whether overweight is a
complicating factor...
or just uncomplicated overweight.**

Tenuate[®] Dospan[®] ^{IV} **(diethylpropion hydrochloride NF)** **75 mg. controlled-release tablets**

A useful short-term adjunct in an indicated weight loss program.

Overweight patients in certain diagnostic categories often require strict obesity control. Diethylpropion hydrochloride has been reported useful in obese patients with hypertension, symptomatic cardiovascular disease, or diabetes. While it is not suggested that Tenuate in any way reduces these complications in the overweight, it may have a useful place as a short-term adjunct in a prescribed dietary regimen. (Tenuate should not be administered to patients with severe hypertension; see additional Warnings and Precautions on the opposite page.)

In uncomplicated obesity.

Many patients, on the other hand, present with excess fat but no disease. While this condition is often termed uncomplicated obesity, complications of both a social and a psychologic nature may be distressingly real for the patients. In these cases, a short-term regimen of Tenuate can help reinforce your dietary counsel during the important early weeks of an indicated weight loss program.

Clinical effectiveness.

The anorexic effectiveness of diethylpropion hydrochloride is well documented. No less than 16 separate double-blind, placebo-controlled studies attest to its usefulness in daily practice.¹ And the unique chemistry of Tenuate provides "...anorexic potency with minimal overt central nervous system or cardiovascular stimulation."² Compared with the amphetamines, diethylpropion has minimal potential for abuse.

**Tenuate—it makes sense.
And it's responsible medicine.**

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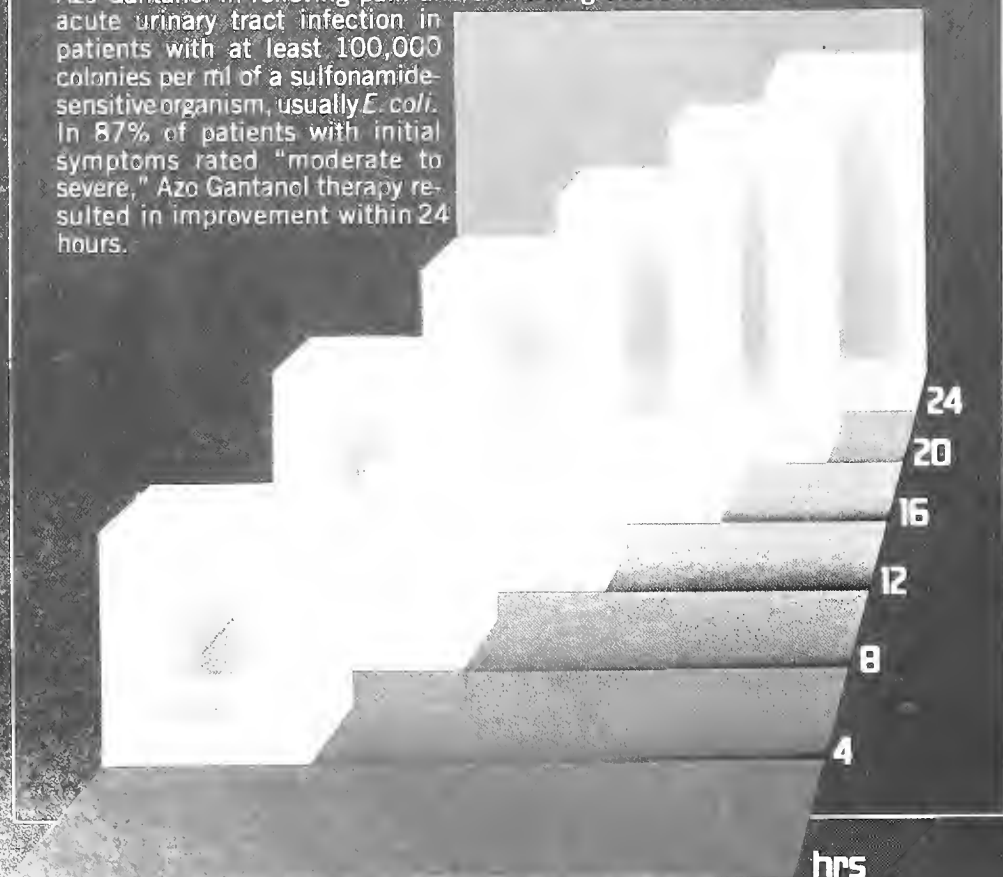


For prescribing information see opposite page

Important data on the pain of acute cystitis:

In 87% of patients studied (303 of 349), Azo Gantanol reduced pain and/or burning within 24 hours*

A controlled, multicenter study assessed the efficacy of Azo Gantanol in relieving pain and/or burning associated with acute urinary tract infection in patients with at least 100,000 colonies per ml of a sulfonamide-sensitive organism, usually *E. coli*. In 87% of patients with initial symptoms rated "moderate to severe," Azo Gantanol therapy resulted in improvement within 24 hours.



Fast pain relief plus effective antibacterial action

Azo Gantanol[®]

Each tablet contains 0.5 Gm sulfamethoxazole and 100 mg phenazopyridine HCl.

for
the pain
for
the pathogens

Roche Laboratories, Hoffmann-La Roche Inc., Nutley, New Jersey 07110.

Before prescribing, please consult complete product information, a summary of which follows.

Indications: In adults, urinary tract infection complicated by pain (primarily pyelonephritis, cystitis and cystitis) due to susceptible organisms (usually *E. coli*, *Klebsiella-Aerobacter*, *Staphylococcus aureus*, *Proteus mirabilis*, and, less frequently, *Proteus vulgaris*) in the absence of obstructive uropathy or foreign bodies. Fully coordinate *in vitro* sulfonamide sensitivity tests with bacteriologic and clinical response. Administer aminobenzoic acid to follow-up culture to increasing frequency of resistant organisms. The usefulness of antibacterials including sulfonamides. Measure sulfonamide blood levels; variations may occur; 20 mg/100 ml should be maximum total level.

Contraindications: Children below age 12; sulfonamide hypersensitivity; pregnancy after 3 months; during nursing period; because Azo Gantanol contains phenazopyridine hydrochloride it is contraindicated in glomerulonephritis, severe heart failure, uremia, and pyelonephritis of pregnancy or lactation.

Warnings: Safety during pregnancy not established. Deaths from hypersensitivity reactions, including aplastic anemia and other blood disorders, have been reported and early clinical signs (fever, throat, fever, pallor, purpura or jaundice) indicate serious blood disorders. Frequent analysis with microscopic examination is recommended during sulfonamide therapy.

Precautions: Use cautiously in patients with impaired renal or hepatic function, severe bronchial asthma; in glucose-6-phosphate dehydrogenase-deficient individuals in whom dose-related hemolysis may occur. Maintain adequate fluid intake to prevent crystalluria or stone formation.

Adverse Reactions: Blood dyscrasias (agranulocytosis, aplastic anemia, thrombocytopenia, leukopenia, hemolytic anemia, purpura, thrombinemia and methemoglobinemia); allergic reactions (erythema multiforme, skin eruptions, Stevens-Johnson syndrome, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, sensitization, arthralgia and allergic myalgia); reactions (nausea, emesis, abdominal pain, hepatitis, diarrhea, anorexia, pancreatic stomatitis); CNS reactions (headache, dizziness, neuritis, mental depression, convulsion); hallucinations, tinnitus, vertigo and insomnia; miscellaneous reactions (drug fever, chills, nephrosis with oliguria and anuria, pericarditis, nodosa and L. E. phenomenon). Due to chemical similarities with some diuretics, uretics (acetazolamide, thiazides) and other glycosidic agents, sulfonamides have caused instances of goiter production, diuresis and glycemia. Cross-sensitivity with these agents exist.

Dosage: Azo Gantanol is intended for the painful phase of urinary tract infection. Adult dosage: 2 Gm (4 tabs) initially, then (2 tabs) B.I.D. for up to 3 days. If painless causes other than infection should be sought. After relief of pain has been obtained, continued treatment with Gantanol (sulfamethoxazole) should be considered.

NOTE: Patients should be told that the dye (phenazopyridine HCl) will color their urine.

Supplied: Tablets, red, film-coated, each containing 0.5 Gm sulfamethoxazole and 100 mg phenazopyridine HCl—bottles of 100 and 500.

ROCHE Roche Laboratories
Division of Hoffmann-La Roche
Nutley, New Jersey 07110

receive adult regimens. Children who weigh less than 100 lbs. should be treated as follows:

Uncomplicated Disease

Uncomplicated vulvovaginitis, urethritis, proctitis or pharyngitis can be treated at one visit with:

Amoxicillin 50 mg/kg orally with probenecid 25 mg/kg (maximum 1.0 g).

or

Aqueous procaine penicillin G 100,000 units/kg intramuscularly plus probenecid 25 mg/kg (maximum 1.0 g).

Special Considerations

—Topical and/or systemic estrogen therapy are of no benefit in vulvovaginitis.

—Long-acting penicillins, such as benzathine penicillin G, are not effective.

—All patients should have followup cultures and the source of infection should be identified, examined and treated.

Gonococcal Ophthalmia

Ophthalmia in children is treated as in neonates but the dose of penicillin is increased to 100,000 units/kg/day intravenously.

Complicated Infections

Patients with peritonitis or arthritis require hospitalization and treatment with aqueous crystalline penicillin G, 100,000 units/kg/day intravenously for 7 days. Aqueous crystalline penicillin G 250,000 units/kg/day intravenously in 6 divided doses for at least 10 days is recommended for meningitis.

Allergy to Penicillins

Children who are allergic to penicillins should be treated with spectinomycin 40 mg/kg intramuscularly. Children older than 8 years may be treated with tetracycline 40 mg/kg/day orally in 4 divided doses for 5 days. For treatment of complicated disease, the alternative regimens recommended for adults may be used in appropriate pediatric dosages.



Previous genetic studies of vitamin D resistant rickets have utilized the presence of skeletal disease to identify affected individuals. Our study strongly suggests that the level of serum inorganic phosphorus is a more sensitive index of abnormality. We have encountered a number of persons who are hypophosphatemic and intimately involved in the hereditary pattern of the disease, but who have no evidence, past or present, of skeletal disease. The fact that the children of these people may be as severely affected as the children of more severely affected parents implies that the same abnormal gene has different effects on different genetic substrates and in different environmental situations. Our observations suggest that in previous studies there have been many affected (i.e. hypophosphatemic) persons transmitting the disease who have been overlooked.

Hypophosphatemia *per se* does not represent the expression of the abnormal gene at the most fundamental level; rather there appears to be a more fundamental abnormality, whose exact nature is not yet clear, but which certainly is related to phosphate transport. There seems to be no question, however, that hypophosphatemia is more closely related to the action of the abnormal gene than the presence of clinically or radiologically detectable rachitic lesions.

... our data are compatible with a *sex-linked dominant* mode of transmission. This means that the abnormal gene resides on the X-chromosome, an affected female being heterozygous and an affected male, hemizygous. It is of considerable interest that all but one of the previously reported instances of familial resistant rickets are also compatible with a sex-linked dominant hypothesis.

The "asymptomatic" form of resistant rickets — i.e. hypophosphatemia without clinically or radiologically detectable skeletal disease — has not been described previously. This is not surprising when it is appreciated that such patients, aside from a slight reduction in linear growth, have no discernible symptoms related either to hypophosphatemia or the skeletal system. — Robert W. Winters, John B. Graham, T. Franklin Williams, Vernon W. McFalls and Charles H. Burnett. A Genetic Study of Familial Hypophosphatemia and Vitamin D Resistant Rickets with a Review of the Literature. *Medicine* 37:97-142, 1958. (Reproduced with permission; copyrighted by The Williams & Wilkins Co., Baltimore, Md.)

Month in Washington

Few blame the blizzard of "Seventy Nine" or the farmers' tractor parades at the height of Washington's rush-hour traffic for the delay in the organization of the 96th Congress. But it was late before the new Congress was ready for business.

The leadership of the key House health subcommittees took a more liberal cast as Rep. Henry Waxman (D-Cal.) was elected to the chairmanship of the crucial House Commerce Health Subcommittee to fill the position long held by Rep. Paul Rogers (D-Fla.) who retired last year.

Waxman edged out Rep. Richardson Preyer (D-N.C.) by a 15 to 12 vote in an unusually tense fight that was pictured as a race between a moderate, Preyer, and a liberal, Waxman. The latter told reporters after his victory that he would press for liberal legislation, but said he doubted a national health insurance measure would win Congressional approval in this session. "And the Administration's Hospital Cost Containment proposal will have a very difficult time," he added.

In another important shift, Rep. Dan Rostenkowski (D-Ill.) gave up the chairmanship of the House Ways and Means Subcommittee on Health to assume the leadership of the expanded taxation panel. Rep. Charles Rangel (D-N.Y.) was elected chairman of the health unit. Rangel is considered a liberal, while Rostenkowski was a middle-of-the-roader on health legislation and the instigator of the Voluntary Effort (VE) to contain hospital expenditures.

The House Commerce Subcommittee on Oversight headed last year by Rep. John Moss (D-Cal.) will be chaired this year by Rep. Bob Eckhardt (D-Tex.), a champion of consumer causes. Moss, who retired this year, was a bitter critic of the medical profession who had held controversial hearings on unnecessary surgery. Eckhardt, who defeated Rep. John Murphy (D-N.Y.) for the slot, said he plans to concentrate the Subcommittee's investigations on housing, energy and food.

* * *

The Carter Administration's health budget encountered a cry of "niggardly" from health groups and senators upset at economies.

Sen. Edward Kennedy (D-Mass.) opened his Senate Health Subcommittee to testimony from interested groups and to Health, Education and Welfare Secretary Joseph Califano as he continued his hammering at the Administration's health policies. Kennedy asserted that Carter's budget would produce the

"intolerable result" of undermining the health care system. He said it would "jeopardize" the quality of medical schools and "seriously damage" health research and other programs.

The Association of American Medical Colleges (AAMC), the coalition for health funding and the American Nurses Association (ANA) argued against proposed cutbacks. The American Medical Association submitted a statement criticizing some of the reductions.

Defending the budget, Califano said some important programs will receive increases. The budget "must be seen from a national, not just a health perspective," he testified. "Both you and I can identify serious unmet health needs that require additional federal dollars, but we have had to make some difficult decisions."

John Cooper, M.D., President of the AAMC, said proposed cuts in capitation and student aid could force higher tuition and leave only the wealthy able to afford a medical education.

The AMA said that "within the restraints suggested by President Carter, we do have reservations about certain of the shifts in funding allocations for some programs."

The recommended reduction of about \$5.5 million for the Maternal and Child Health Care program would affect a key service program that has "been badly eroded by inflation . . . adequate funding must be maintained," the AMA said.

"We must also question the substantial reduction in funds for child immunization programs. This program has contributed substantially to improved health in this country and any reduction in effort must be carefully scrutinized."

There is no evidence that federal health research dollars have been redirected to basic biomedical research, the statement said.

"We are also concerned about the drastic and immediate cuts in support for health professions education. Reducing federal support to health professions schools will put increased pressures on the finances of students and their families as tuitions can be expected to rise to compensate for the loss of funds."

The substantial increase for the community health centers program was questioned. "Were the efficacy of this program free of debate, we might not question the increase. However, the General Accounting Office has been critical of this activity recently. Until such time as these questions are resolved, increased funding should not be authorized."

The AMA said, "We do not wish to leave the in-

...ession that all the President's health funding choices
...e questionable. The AMA believes that increases
...uggested for several programs are commendable and
...ecessary. For example, the expansion of the Na-
...tional Health Service Corps continues the fine efforts
...that program to place needed health professionals in
...ommunities short of medical personnel.
...We also applaud the proposed new funding for
...ental Health Research. Much needs to be done in
...is area."

* * *

Catastrophic national health insurance, once a dark
...rse in the NHI sweepstakes, but now one of the
...avorites, has been introduced in the new Congress by
...Chairman Russell Long (D-La.) of the Senate Finance
...Committee. Ten senators were co-sponsors.
...The measure, identical to the one Long has been
...ushing for the last six years, "is a common sense,
...partisan proposal" that represents "a major step
...ward the provision of adequate protection against
...e high costs of health care," Long told the Senate.
...He said the bill "may be about as much as we can
...ford to enact in this Congress, perhaps as much as
...n be afforded for the next several years." The
...catastrophic benefit cost was estimated at \$5 billion to
...billion annually.

The other two thrusts of the bill are to federalize and
...pand Medicaid and standardize private health in-
...urance plans. The Medicaid expansion to cover many
...ot now eligible and to broaden benefits would cost
...ome \$12 billion to \$14 billion yearly. Long arranged
...e introduction so that senators favoring the cata-
...strophic plan but hesitant about the Medicaid proposal
...ould back the catastrophic as a separate measure.
...Time after time we hear of the ruinous costs of
...olonged illness," Long told the Senate. "We be-
...ieve that it is time to stop talking about these prob-
...lems and start doing something about them." Neither
...e Administration nor any outside group has de-
...veloped such an approach, he declared — "It is a plan
...developed by Congress."

Hearings will be held by the Finance Committee in
...late March. Co-sponsors were Sens. Herman Tal-
...adge (D-Ga.), Chairman of the Finance Subcom-
...mittee on Health; Milton Young (R-N.D.); John
...elcher (D-Mont.); Howard Cannon (D-Nev.);
...aniel Inouye (D-Ha.); Robert Stafford (R-Vt.);
...Charles Percy (R-Ill.); Richard Stone (D-Fla.); Mark
...latfield (R-Ore.); and Charles Mathias (R-Md.).

* * *

Medicare beneficiaries in areas of the country
...erved by Professional Standard Review Organiza-
...tions (PSROs) are spending fewer days in the hospital
...an beneficiaries in areas without PSROs.
...An evaluation report prepared by HEW says the
...PSRO program, under attack a year ago by the Ad-
...ministration, has become "an effective partner . . . in
...the HEW campaign to reduce unnecessary costs while
...ssuring high quality care," according to HEW Sec-
...etary Califano.

In the 93 areas served by PSROs, Medicare ben-
...eficiaries used 1.5 percent fewer days of hospital care
...than they would have used without PSROs, a saving
...of about 55 days of care per 1,000 beneficiaries, ac-
...cording to the report.

HEW estimated that PSROs saved \$50 million in
...1977 by eliminating unnecessary days in the hospital.
...The 96 PSROs spent \$45 million that year to review
...hospital care, producing a net savings of \$5 million.

* * *

Rep. Tennyson Guyer (R. Ohio) has introduced leg-
...islation to require economic impact analyses for all
...rules and regulations required to be published in the
...Federal Register.

The bill is identical in effect to an AMA proposal
...which received wide Congressional support in the last
...Congress. The economic analyses required by the new
...bill (H.R. 383) would include a detailed analysis and
...discussion of the impact the regulation would have on
...the economy and include such factors as:

- the cost of the rule on consumers, business mar-
...kets and federal, state and local governments;
- the effect on employment, productivity, compe-
...tition, and on supplies of important products and ser-
...vices;
- the unavoidable adverse impacts of the rule, and
...alternatives to the rule that were considered;

Physician: Practice medicine, not administration.

Medicine is a practice of such consequence
...as to demand the last particle of the prac-
...titioner's attention. Therefore, Army physi-
...cians receive substantial compensation, ex-
...tensive annual paid vacation, a remarkable
...retirement plan, and, best of all, the freedom
...to practice without endless insurance forms,
...malpractice premiums, and cash flow wor-
...ries.

Army Medicine:
The practice that's
practically all medicine.
"Call Collect/Person to Person"
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—the estimated cost of direct compliance with the rule by those required to comply with the rule;

—the estimated cost of implementing, monitoring and enforcing the rule.

The House Judiciary Committee handles the legislation.

* * *

Wage and Price Stability Council Director Barry Bosworth, who has been sympathetic to the Voluntary Effort in contrast to the hostility of HEW Secretary Joseph Califano, told the annual meeting of the American Hospital Association in Washington that the Administration's "trigger" program would not be inconsistent with the voluntary approach "which would be preferable."

"I personally believe it can be done voluntarily," Bosworth said. But "we cannot continue, decade after decade, to have an increasing proportion of the nation's Gross National Product going for hospital care."

Last year, Bosworth generally steered clear of the fight over controls. He often praised the voluntary, cooperative program launched by the AHA, the AMA, and the Federation of American Hospitals (FAH).

The Administration has abandoned its mandatory federal control plan of last year, which collapsed in the past Congress, in favor of standby federal controls if hospitals fail to achieve a reduction in the rate of expenditures increase to 9.7 percent, a level termed impossible to meet by AHA President J. Alexander McMahon. McMahon said he cannot understand how the Administration can take the position that standby controls for the economy as a whole are unnecessary and unworkable, but insist they be imposed on hospitals alone.

Declaring that hospitals and physicians have become "one large profession now" under the threat of controls, AMA executive vice president James Sammons, M.D., pointed out to the assembled AHA delegates that none of the government speakers has "said a word about quality."

"Quality comes first," Dr. Sammons said, "and needs to be protected and preserved against the political whims of the moment."

Health is now the second or third largest segment of the economy, employing millions of people, "and you can't play political games with it unless you are prepared to suffer the consequences" to the economy if the course is wrong, he warned.

"The threat of imposing standby controls runs the risk of escalating expenditures by hospitals in anticipation of the threat coming true," Dr. Sammons said. Furthermore, a standby program could damage voluntary efforts by making controls appear inevitable.

The AMA official noted that the Voluntary Effort was hailed by Bosworth last year as the only major successful restraint program by any part of the economy. But now the Administration seeks controls on grounds the program hasn't been working well.

Dr. Sammons said that the control issue has drawn hospitals and physicians close together in a "totally

cooperative" effort. "We have come a long way in doing what we should have done at the very beginning," he said. "We are one large profession."

* * *

The military Surgeons General told Congress the Armed Forces suffer a physician shortage.

Air Force Lt. Gen. Paul Myers, M.D., said a shortage of specialists is the major concern. The overall shortage of physicians in the Air Force is running about 10%.

The military cannot compete for physicians in the civilian health care market, largely because military pay is well below what civilian doctors receive, according to the physician.

"In spite of extensive recruiting, we have never met our required goal in any fiscal year," Dr. Myers said. "Recruiting in some specialties has been almost nil."

Almost 16% of the Air Force's physicians are foreign medical graduates.

Navy Vice Admiral Willard Arentzen, M.D., said a recent Navy exercise "demonstrated that not only are the numbers of medical reserves insufficient to meet contingency requirements, but that reserve personnel will not be available soon enough to be used in fulfilling overseas deployment commitments."

Army Lt. Gen. Charles Pixley, M.D., said that since the end of the draft the number of physicians willing to join the Army has steadily dwindled. He urged Congress to provide an improved scholarship program and pay that is competitive with civilian medical practice, plus "facilities and equipment" comparable to what civilian physicians have.

* * *

The American Chiropractic Association said the Administration's opposition to chiropractic benefits would be counterproductive to the health of the aged and aggravate the problem of inflation in health care costs.

In a full page "open letter to the President" advertisement in the *Washington Post*, the Association said the President acted on "poor advice" in asking "that a vital service be eliminated."

The Administration in its budget request to Congress recommended that chiropractic benefits in Medicare and Medicaid be eliminated. "In the absence of scientific evidence that chiropractic services either improve or maintain health status; HEW believes that chiropractors should be removed from the list of eligible providers," the Administration said, claiming this would save the government programs \$35 million next fiscal year.

The Chiropractic Association said 226 senators and representatives in the last Congress supported legislation seeking an expansion of chiropractic benefits.

The Administration's stand "would unfairly discriminate against millions of Americans who depend on doctors of chiropractic as their primary health care providers," said the Association. Noting that chiropractic is licensed in all 50 states, the ad said that as an outpatient method of treatment it "saves the cost of hospitalization."

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Phone 1-800-662-7917

In Memoriam

RICHARD LAFAYETTE BURT, M.D.

Richard Lafayette Burt, B.S., M.S., Ph.D., M.D., medical scientist, researcher, educator and clinician. Born Dec. 7, 1915, in Springfield, Massachusetts, and died Dec. 15, 1978, in Winston-Salem.

Dr. Burt received his bachelor of science degree in 1938 from Springfield College where he was to be recognized as a distinguished alumnus in 1966. His M.S. and Ph.D. degrees were awarded in 1940 and 1942 respectively from Brown University and he received his M.D. degree in 1946 from Harvard Medical School. He served an internship for two years with the United States Naval Hospital in Chelsea, Massachusetts. He then completed a residency training program in obstetrics and gynecology at the North Carolina Baptist Hospital and Bowman Gray School of Medicine in 1953 where he was to remain throughout his professional career.

Following completion of his residency he was appointed instructor in obstetrics and gynecology. From this position he rose to assistant professor, then to associate professor. In 1966 he was elevated to full professor and became chairman of the department, a position he held until 1972. He continued his duties as professor until 1977 when he retired because of failing health.

Dr. Burt's outstanding accomplishments in his chosen fields of obstetrics and biochemistry were numerous. He achieved national and international reputations of excellence in research in human reproduction through his long-range study of the changes in body chemistries during pregnancy and their effects on the mother and the unborn child. He was the recipient of a

Research Career Award from the National Institutes of Health. Dr. Burt assumed a leading role in developing the research and training program in reproductive biology at the Bowman Gray School of Medicine.

He was a member of numerous medical and scientific groups. He was a Diplomate of the American Board of Obstetrics and Gynecology and an Examiner for that organization. He was a member of the American College of Obstetricians and Gynecologists and served on the Editorial Board of *Obstetrics and Gynecology*, the journal of the college. His numerous medical society memberships included the North Carolina State Medical Society and the Forsyth County Medical Society.

Dr. Burt was instrumental in the establishment of the Bowman Gray Sigma Xi Club for the advancement of research. This later became the Wake Forest Chapter of the Society of the Sigma Xi. He was a member of Alpha Omega Alpha National Medical Honor Society.

Dr. Burt's avocation like his vocation was almost wholly dedicated to the pursuit of knowledge. He was a world traveler, visiting many of the great European universities as guest lecturer. He was an avid "ham" radio operator. Through the short wave radio medium he was in touch with academicians and other interesting people throughout the world.

His prolific laboratory experiments resulted in his prolific writing. Thus, his curriculum vitae records 124 major contributions to the medical and scientific literature.

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Contraindications: Patients with known hypersensitivity to the drug

Warnings: Warn patients that mental and/or physical abilities required for tasks such as driving or operating machinery may be impaired, as may be mental alertness in children, and that concomitant use with alcohol or CNS depressants may have an additive effect. Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported.

Usage in Pregnancy: Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.

Precautions: In the elderly and debilitated, and in children over six, limit to smallest effective dosage (initially 10 mg or less per day) to preclude ataxia or oversedation, increasing gradually as needed and tolerated. Not recommended in children under six. Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (e.g., excitement, stimulation and

acute rage) have been reported in psychiatric patients and hyperactive aggressive children. Employ usual precautions in treatment of anxiety states with evidence of impending depression, suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

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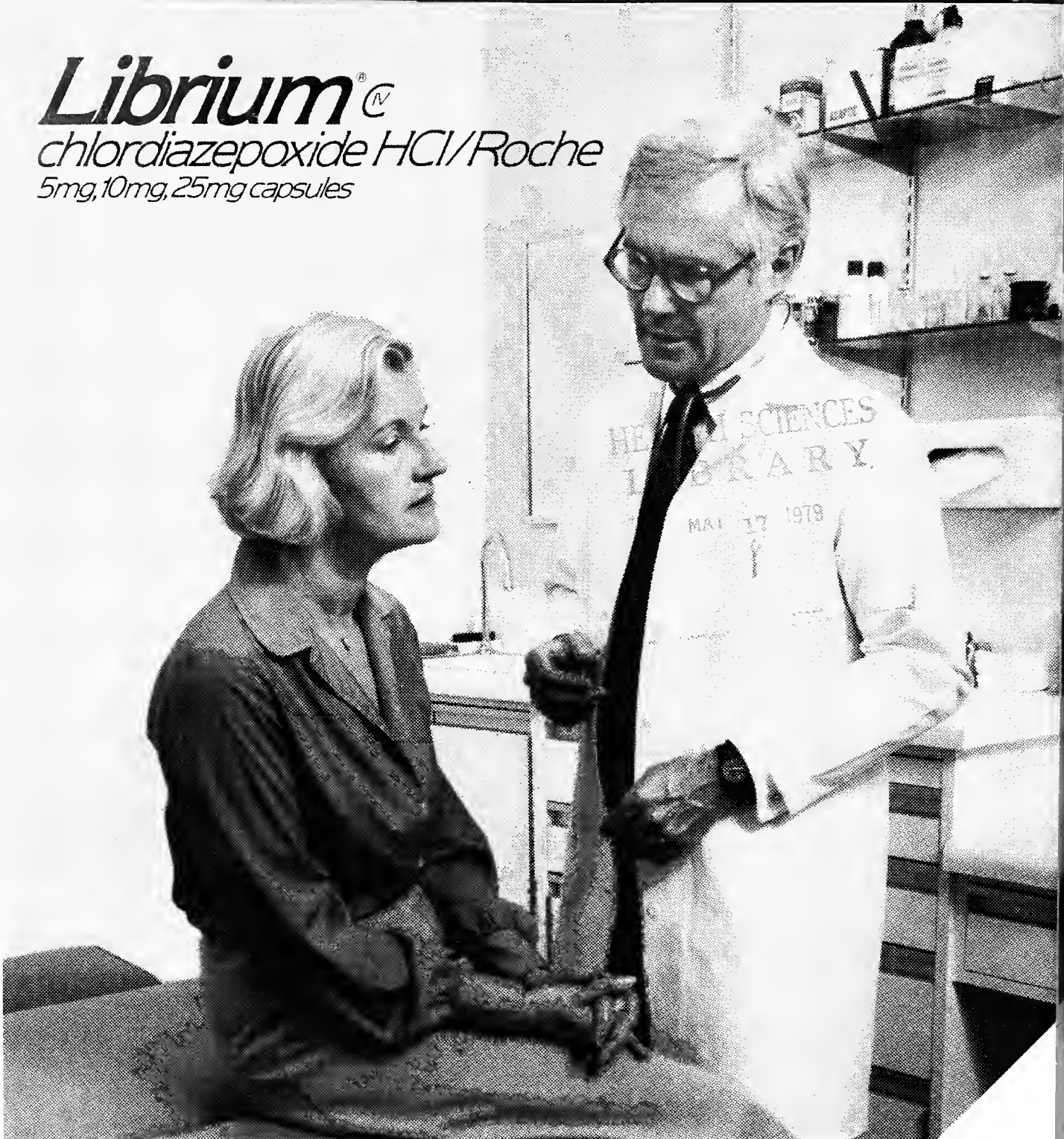
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NORTH CAROLINA

Medical Journal

The Official Journal of the NORTH CAROLINA MEDICAL SOCIETY □ □ □ May 1979, Vol. 40, No. 5

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An Effective Palliative Treatment for Phenothiazine-Induced Tardive Dyskinesia: Wilmer C. Betts, M.D., Frank S. Johnston, Jr., M.D., and Myra J. Pratt, P.T.

Antiparkinson Drugs in Paranoid Schizophrenia: Jesse O. Cavenar, Jr., M.D., Ernest R. Braasch, M.D., and John L. Sullivan, M.D.

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an syndrome, convul-
any
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of been assessed by sys-
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ss of the drug for the indi-

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glaucoma may be used in patients with open angle
glaucoma who are receiving appropriate therapy.
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against hazardous occupations requiring complete
mental alertness. When used adjunctively in con-
junctive disorders, possibility of increase in frequency
and or severity of grand mal seizures may require
increased dosage of standard anticonvulsant medica-
tion. Abrupt withdrawal may be associated with tem-
porary increase in frequency and or severity of sei-
zures. Advise against simultaneous ingestion of alco-
hol and other CNS depressants. Withdrawal symp-
toms (similar to those with barbiturates and alcohol)
have occurred following abrupt discontinuance (con-
vulsions, tremor, abdominal and muscle cramps, vom-
iting and sweating). Keep addiction-prone individuals
under careful surveillance because of their predisposi-

Usage in Pregnancy: Use of minor tran-
quilizers during first trimester should al-
ways be avoided because of in-
creased risk of congenital malformations
as suggested in several studies. Consider
possibility of pregnancy when instituting
therapy; advise patients to discuss therapy
if they intend to or do become pregnant.
Precautions: If combined with other psychotropics or
aniconvulsants. Consider carefully pharmacology of
agents employed. Drugs such as phenothiazines,
narcotics, barbiturates, MAO inhibitors and other an-
tidepressants may potentiate its action. Usual pre-
cautions indicated in patients severely depressed or
with latent depression or with suicidal tendencies.
Observe usual precautions in impaired renal or hepatic
function. Limit dosage to smallest effective amount
in elderly and debilitated to preclude ataxia or over-
sedation.

hypotension, changes in libido, nausea, fatigue, de-
pression, dysarthria, lactic acidosis, skin rash, ataxia, con-
stipation, headache, incontinence, changes in saliva-
tion, slurred speech, tremor, vertigo, urinary retention,
blurred vision. Paradoxical reactions such as acute
hyperexcited states, anxiety, hallucinations, increased
muscle spasticity, insomnia, rapid sleep disturbances
stimulation have been reported. Should these occur
discontinue drug. Isolated reports of neutropenia,
leukopenia, periodic blood counts and liver function
tests advisable during long-term therapy.



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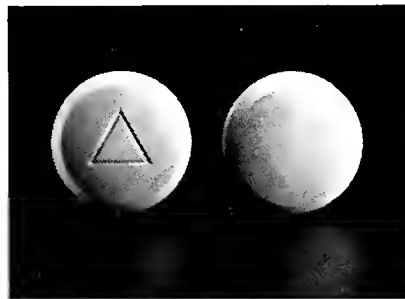
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The Maker

Examining a Few Myths About Prescribing.

Increasing pressure is being put on the practicing physician to prescribe drugs generically. You are told that brand-name products are universally "expensive" and generic versions are relatively "cheap." To make this case, the most extreme (rather than typical) price differentials are cited. Thus, consumers are led to believe that such differentials are commonplace. Even your knowledge and your motives as a physician are questioned.

Understandably, these views have created myths. We think it's time to examine them in the light of all the facts and ramifications.



MYTH: There are no differences in quality and performance between brand-name products and their generic counterparts. The corollary is that there are no differences among products made by high-technology, quality-conscious, research-based companies and those made by commodity-type suppliers.

FACT: The Food and Drug Administration does a good job in monitoring a generally excellent drug supply. Still, it has nowhere near the resources to guarantee the quality and bioavailability of all marketed products at any given time. Just a few months ago, for example, it noted that batches of tetracycline HCl capsules which met official monograph requirements were

not bioequivalent to a reference product. As we know, there is substantial literature on this subject affecting many drugs, including such antibiotics as tetracycline and erythromycin. The record of drug recalls and court actions affirms strongly that there are differences among pharmaceutical companies and their products. Research-intensive companies have far better records than those that do not invest in research and may provide a minimum quality assurance.

MYTH: Industry favors only "expensive" brand names and denigrates generics.

FACT: PMA companies make 90 to 95 percent of the drug supply, including, therefore, most generics. Drug nonavailability is not the important point; it's the competence of the manufacturer and the integrity of the product that con-

Matters.

MYTH: Generic options always exist.

FACT: About 55 percent of prescription drug expenditure is for single-drug products. This means, of course, that for 45 percent of such expenditure, a generic prescribing option is available.

MYTH: Generic prescriptions are filled with expensive generics, thus costing consumers large sums of money.

FACT: Market data show that you invariably prescribe—and pharmacists dispense—both brand and generically equivalent products from the same and trusted sources, in the best interests of patients. In most cases, the patient receives the same proven brand product. Savings from voluntary and mandated generic prescribing are grossly exaggerated.

MYTH: Drugs account for a major portion of the rise in health care costs.

FACT: Drugs represent a very small part of such costs. The amount of the health care dollar spent for prescription drugs was about 12 cents in 1967; today it is about 8 cents. And you as a physician are most conscious of how drug therapy can cut hospitalization, avert surgery, reduce office visits and keep patients on the job.

MYTH: Government intrusions into the marketplace will save tax money.

FACT: Government schemes always cost the taxpayer something, and the costs often exceed the benefits. Certainly, any federal "help," such as lists of wholesale drug prices sent to all physicians and pharmacists, will be no exception. Just think of the expense of keeping them current! Moreover, wholesale prices are poor guides to actual transaction prices and even worse guides to retail prices.

The PMA Position

We believe your freedom to prescribe, either by generic or brand name, should be totally unabridged. Otherwise, your prescribing prerogatives and your relationships with patients will be seriously impaired.

The maker does matter

After the myths about price and equivalency have been shattered, one fact stands out more clearly than ever: *The maker does matter.* As always, your best guide to drug therapy for your patients is to select products—both brands and generics—from manufacturers with credentials and performance records you have come to respect.

The logo for the Pharmaceutical Manufacturers Association (PMA) consists of the letters 'PMA' in a bold, stylized, sans-serif font. The 'P' and 'M' are connected, and the 'A' is separate.

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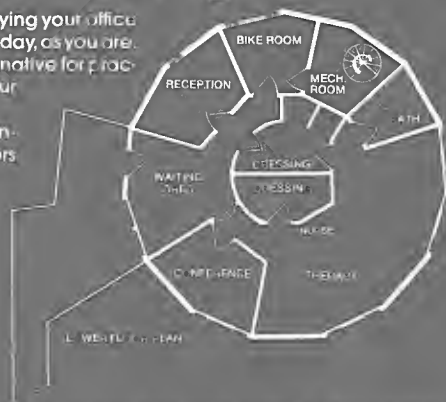
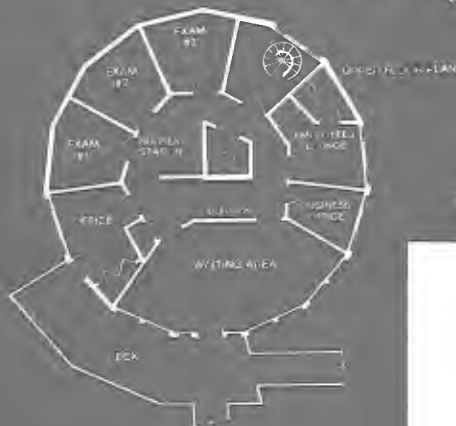


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PRECAUTIONS: Evidence of untoward myocardial responses should be carefully watched for in all patients. In the presence of myocardial damage with atrial fibrillation or flutter, the ventricular rate may increase suddenly as the atrial rate is slowed; adequate digitalization reduces but does not abolish this danger. Ventricular tachysystole is particularly hazardous if myocardial damage exists.

The dislodgment of mural thrombi producing an embolic episode may occur in correcting atrial fibrillation due to the forceful contractions of the atrium.

Extreme caution is required in attempting to adjust the heart rate when ventricular tachycardia has occurred during an occlusive coronary episode or where the use of procainamide may result in additional depression of conduction and ventricular asystole or fibrillation as in second degree and third degree A-V block, bundle branch block, or severe digitalis intoxication.

Bear in mind when treating ventricular arrhythmias in patients with severe organic heart disease and ventricular tachycardia that complete heart block, which may be difficult to diagnose, may be present. Since asystole may result if the ventricular rate is significantly slowed without attainment of regular atrioventricular conduction, procainamide should be stopped and the patient re-evaluated.

In the presence of both liver and kidney damage, normal dosage may produce symptoms of overdosage—principally ventricular tachycardia and severe hypotension.

A syndrome resembling lupus erythematosus has been reported with oral maintenance procainamide therapy. Common symptoms are polyarthralgia, arthritis and pleuritic pain. Fever, myalgia, skin lesions, pleural effusion and pericarditis may also occur. Rare cases of thrombocytopenia or Coombs-positive hemolytic anemia, possibly related to this syndrome, have been

reported. Measure anti-nuclear antibody titers at regular intervals in patients on procainamide for extended periods of time or in whom symptoms suggestive of lupus-like reaction appear; in event of rising titer (anti-nuclear antibody) or clinical symptoms of LE, assess the benefit/risk ratio related to continued procainamide therapy (see boxed Warning). Steroid therapy may be effective if discontinuation of procainamide does not cause remission of symptoms. If the syndrome develops in a patient with recurrent life-threatening arrhythmias not otherwise controllable, steroid-suppressive therapy may be used concomitantly with procainamide.

ADVERSE REACTIONS: Hypotension is rare with oral administration. Serious disturbances of cardiac rhythm such as ventricular asystole or fibrillation are more common with I.V. administration.

Large oral doses may sometimes produce anorexia, nausea, urticaria, and/or pruritus.

A syndrome resembling lupus erythematosus has been reported in patients on oral maintenance therapy (see Precautions). Reactions consisting of fever and chills have been reported, including a case with nausea, vomiting, abdominal pain, acute hepatomegaly, and a rise in serum glutamic oxaloacetic transaminase following single doses of the drug. Agranulocytosis has been occasionally reported following repeated use of the drug, and deaths have occurred. Therefore, routine blood counts are advisable during maintenance procainamide therapy; and the patient should be instructed to report any soreness of the mouth, throat or gums, unexplained fever or any symptoms of upper respiratory tract infection. If any of these symptoms should occur and leukocyte counts indicate cellular depression, procainamide therapy should be discontinued and appropriate treatment should be instituted immediately. Bitter taste, diarrhea, weakness, mental depression, giddiness, psychosis with hallucinations, and hypersensitivity reactions such as angioneurotic edema and maculopapular rash have been reported.

For full prescribing information, consult package insert.

HOW SUPPLIED: Pronestyl Tablets (Procainamide Hydrochloride Tablets) providing 250 mg, 375 mg, and 500 mg procainamide hydrochloride are available in bottles of 100 and Unimatic[®] single-dose packaging in cartons of 100. The 250 mg and 500 mg tablets are also available in bottles of 1000.



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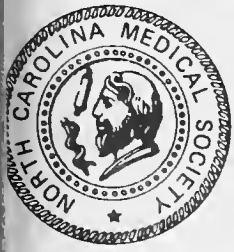
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PRESIDENT'S NEWSLETTER

NORTH CAROLINA MEDICAL SOCIETY

No. 12

May 1979

The 125th Annual Session of the North Carolina Medical Society was held in Pinehurst, May 3-6, 1979. There was a grand total registration of 1,304, with 774 physicians, which was an increase from last year's attendance. The Medical Auxiliary registered 228. Excellent programs were presented in the Medical Session by the Dept. of Medicine, Duke University Medical Center, and in the Surgical Session by the Dept. of Surgery, East Carolina University School of Medicine.

The newly elected Officers of the Society are: M. Frank Sohmer, Jr., M.D., President-Elect; Kenneth E. Cosgrove, M.D., First Vice-President; Edwin H. Martinat, M.D., Second Vice-President; Jack Hughes, M.D., Secretary (re-elected); Henry J. Carr, Jr., M.D., Speaker of the House; and T. Reginald Harris, M.D., Vice-Speaker.

The House of Delegates took the following actions:

Approved a resolution that the Section on Ophthalmology, in cooperation with the Medical Society, support the legislation introduced in the North Carolina Legislature for the purpose of repealing the 1977 Optometric Drug Use Law.

The Delegates approved a Policy Statement on Death and Dying and Care of the Terminally Ill.

The House of Delegates approved the Generic Drug Substitution Bill with the provision that there would be two blanks on the prescription for the physician to sign. The physician could sign one side of the prescription that would allow for drug substitution or he could sign the other side of the prescription which would not allow drug substitution.

Delegates approved a report from the Executive Council affirming support of the AMA's position on Second Opinion Surgery.

The House approved the formation of a Study Commission to study North Carolina Cancer programs in cooperation with the American Cancer Society, Department of Human Resources, and the Medical Society.

Delegates passed a motion on Direct Billing by Pathologists for fees for professional services to be referred back to the Executive Council and that the Council create a committee composed of pathologists, non-pathologist physicians, hospital administrators, and representatives from Blue Cross Blue Shield for further study. This committee will report back to the House of Delegates in 1980 or sooner.

After a very comprehensive and healthy discussion, the House passed a motion to file the Governor's Primary Care Task Force Report. The House disapproved a Resolution requiring reporting of drug abuse to the local Health Department.

A resolution was passed that the North Carolina Medical Society notify its members of the fact that VDRL's (STS) are not mandatory for hospital admission in the State of North Carolina.

Delegates passed a resolution that the North Carolina Medical Society ask all physicians to continue their efforts to contain medical costs.

A report was approved to reaffirm the Continuing Medical Education requirements for Society membership.

The House voted to approve the request to create an Edgecombe County Medical Society separate from Nash County.

Delegates approved a resolution to encourage the use of "M.D." where appropriate, instead of the more general term of "Dr.".

The House rejected a resolution for periodic examination of physicians in the basics of General Clinical Medicine to test minimum necessary medical knowledge.

A resolution was passed to employ a Health Planner for the Society Staff to assist local Vanguard Committees.

The House, in discussion of the Principles of Medical Ethics, approved the following recommendations to be referred to our Delegates to the AMA for their information and in response to any proposals to change the Principles of Medical Ethics: (1) A professional organization has the right to set forth principles of ethical conduct for its members. (2) The organization should not change these principles in response to influences from persons or groups outside the profession, if such changes would tend to lower the quality of services provided by the members or tend to undermine the confidence of the public in the profession. (3) The principles should continue to emphasize that the individual physician is expected to monitor and be responsible for his own ethical conduct at all times.

Mrs. Mary Jane Means, Auxiliary President, reported an increased membership to 3,081 State and 2,973 National Auxiliary members. She stated AMA-ERF donations increased to \$22,028.82 with an increase of \$3,840.92 over last year. Our medical schools received the following amounts: Bowman Gray-\$7,855.88; Duke-\$8,795.02, UNC-\$8,884.55, and ECU-\$2,203.06. She reported 20 County Scholarships were presented in nursing or allied health fields in the amount of \$12,615.00. Mrs. Means stated that in May 1978, HB 540, the bill to provide trained Health Educators in our schools was passed. There are no funds available to increase the number of educators this year. She encouraged each Society member to support HB 974, entitled "Health Education Appropriation Bill," which would fund eight more Health Educators for the coming year. Please contact your legislators as soon as possible to vote for approval of this expansion bill (HB 974).

James E. Davis, M.D., President of the Medical Liability Mutual Insurance Co., presented the Annual Report which showed a growth from last year of 1.5 million dollars. He stated the company has in cash and investments 6.6 million dollars with 2.1 million dollars in reserve for claims in process. On October 25, 1975, when the Company was formed by the North Carolina Medical Society, there were 390 physicians insured. On May 1, 1979, there were over 4,000 physicians insured. He further stated that last year there were 178 claims against physicians and this year there have been 312 claims pending and 52 claims in suit.

The Health Care Financing Administration is sponsoring a series of "grass roots" public forums across the country in order to solicit input from both providers and recipients of the Medicare and Medicaid programs. HCFA plans to use this information to determine how well the Medicare and Medicaid programs are working and what legislative and administrative changes are needed to meet the needs of the people being served and to improve the delivery of services. There will be only one forum in North Carolina which will be held in Conover, N.C., at the Catawba County YMCA on May 23, 1979. The forum will be divided into two parts--the morning session will begin at 9:00 a.m. and will allow recipients of Medicare and Medicaid to voice their concerns. The afternoon session will begin at 1:30 p.m. and will give providers an opportunity to discuss their problems.

I encourage all physicians interested in these problems to attend and voice their opinions.

During May and June, EDS Federal, as Medicaid Administrator, has scheduled a series of general provider seminars. These three-hour seminars are designed to be of interest to all health professionals. Topics to be discussed are: new prior approval information, the use of ICD diagnosis coding and CPT 4 coding, and the use of optional claim forms for providers.

Seminars scheduled are:

May 16th, 10:00 a.m., Wilson Memorial Hospital
May 17th, 10:00 a.m., Forsyth Memorial Hospital
May 22nd, 10:00 a.m., Charlotte Memorial Hospital
May 29th, 10:00 a.m., Cameron Educational Center, Wilmington
June 5th, 1:00 p.m., Hilton Hotel, Raleigh
June 7th, 10:00 a.m., Craven County Hospital, New Bern
June 12th, 10:00 a.m., Cape Fear Valley Hospital, Fayetteville
June 19th, 10:00 a.m., MAHEC Lecture Hall, Asheville
June 20th, 10:00 a.m., Catawba Memorial Hospital, Hickory
June 28th, 9:30 a.m. and 1:30 p.m., Holiday Inn, Boone

The AMA House of Delegates has recommended the following policies to the State Medical Societies:

(1) The House urges all physicians, when admitting patients to hospitals to send pertinent abstracts of the patient's medical records (including histories and diagnostic procedures) so that the hospital physicians sharing in the care of those patients can practice more cost effective and better medical care. The resolution also urges the hospital to return all information on in-patient care to the attending physician upon the patient's discharge.

(2) The Council on Scientific Affairs recommends that the State Medical Society encourage the increase collection of pituitary glands at autopsy for the purpose of obtaining human growth hormone and that State Medical Societies encourage the review of state laws with a view to permit pituitary retrieval from all medical examiner cases.

Through some mishap in the U.S. mail systems, a number of out-of-state subscribers to the North Carolina Medical Journal failed to receive their December 1978 issue. All copies of the Journal available at the Headquarters Office have been used for replacement copies and a number of additional requests are still pending. It would be greatly appreciated if any members not planning to keep their December Journal would mail them to the Society headquarters for use as replacement copies.

HEW states that the nation is facing an oversupply of doctors by 1990. By then they estimate there will be 23,000 more physicians than needed in the U. S. Congress seems to agree that the doctor shortage found in the 1960's has been alleviated. This is bad news for our medical schools. The 124 medical schools are threatened by cutbacks in government support. Sixteen thousand students are graduated by medical schools each year which doubles the schools' output of ten years ago. Loss of government grants will force medical school tuitions to rise and will mean cutbacks in faculty and fewer minority students.

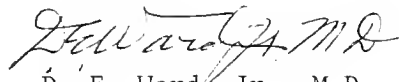
Stuart Bondurant, M.D., will officially assume duties as Dean of the UNC School of Medicine in Chapel Hill on August 20, 1979. He is a native of Winston-Salem, with undergraduate degree from the University of North Carolina, and his M.D. degree from the Duke University School of Medicine. We welcome him back to North Carolina.

I would like to thank the Officers, Executive Council, Auxiliary, and Society members, and Headquarters Staff for their cooperation, hard work, leadership, and assistance during the past year.

We, as physicians, practicing in this great State must dedicate all of our energy and ability to give our patients the best medical care in the nation.

I thank you for the honor of serving as President of your Society for the past year and wish for President J. B. Warren, M.D., success in the coming year.

Sincerely,


D. E. Ward, Jr., M.D.
Past President

DEWjr/lcb

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More physicians today realize what a tough problem we're all faced with. They know this is a challenge for medicine. And that physicians are in the best position to deal with and solve the problem.

*PATIENT CARE Magazine—Outlook 1977, "Fact: Off. Cost Containment vs. Chaos," January 1, 1977.

Lyle CB, et al "Practice habits in a group of eight internists," ANNALS OF INTERNAL MEDICINE 84 (May 1976), 594-601.

Schroeder SA, et al "Use of laboratory tests and pharmaceuticals: variation among physicians and effect of cost audit on subsequent use," JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION 225 (Aug. 20, 1973), 969-73.



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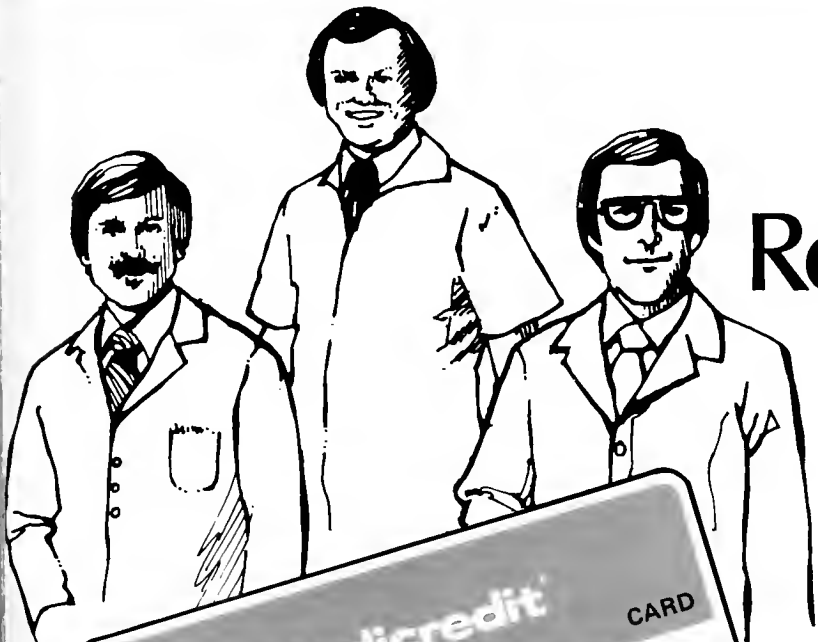
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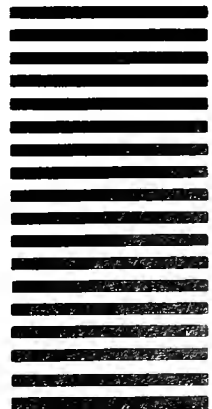
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Message of the President To the House of Delegates

D. E. Ward, Jr., M.D.
May 3, 1979

"Life is short and the art long; the occasion fleeting; experience fallacious, and judgment difficult. The physician must not only be prepared to do what is right himself, but also to make the patient, the attendants, and external cooperate." Thus stated Hippocrates.

Hippocrates is described as a physician who approached medicine philosophically, with imperial precision, and regarded the body as a whole. He was the eminent representative of a significant stage of medicine — the stage in which war was waged on all magico-religious medical practice, and in which medicine consciously sought to become fully scientific and at least succeeded in becoming partially rational.

Your State Medical Society has sought to proceed in a scientific and rational way with the many items of business and numerous facets of organized medicine presented during the year 1978-1979.

The honor and responsibility which you gave me two years ago was humbly accepted. During the years as president-elect and president, the welfare of our society has been my deepest concern, realizing, of course, that with a strong and effective State Medical Society, the people of North Carolina will benefit through enhanced medical care and facilities. This year as presiding officer of our society has been a most gratifying and rewarding experience. This office has opened many new doors, probably the greatest of which was the opportunity to meet so many fine people through the state, both in and out of the medical profession.

It would not be practical for me to mention all of the various and important activities in which the medical society was engaged in 1978-1979. How-

ever, I feel there were certain highlights of the year that I would like to elaborate on at this time.

On December 31, 1978, our medical society recorded its largest membership, 5,385. Our total AMA membership was 4,274. This indicates the value that physicians in North Carolina place on society membership and their desire to work through organized medicine for better health care for the people of our state. As my year as president began, it reminded me of the story of a lion hunter. He was stalking a lion, and just as he started to shoot, his gun jammed. He dropped the gun. The lion detected his scent, turned toward him, and began chasing him. The lion was easily gaining ground on the hunter who became exhausted and fell down. The hunter looked up at the heavens and said, "Dear Lord, please turn this lion into a Christian."

The lion at that time was just about ready to pounce, and suddenly became calm. The lion sat back on his haunches, crossed his paws in front of him and said, "Bless us, O Lord, for these, thy gifts, we are about to receive."

Last year it seemed to me there were many lions whose intentions were to pounce upon organized medicine. In order to more effectively meet the challenges of medicine this year, we organized the first North Carolina Medical Society "Think Tank" Planning Conference which was held in Williamsburg, Virginia, July 27-30. There were 26 society officers, auxiliary officers, councilors, vice-councilors, AMA delegates, past presidents, and staff who participated in this planning conference. Many tenets of our society's internal structure, commissioners' responsibilities, numerous committees, future plans and goals, membership, and annual meeting changes were discussed and referred to the Committee Conclave at Mid-Pines in Sep-

Given before the House of Delegates, North Carolina Medical Society, Pinehurst, North Carolina, May 3, 1979

tember, 1978. Some of these plans and goals from the "Williamsburg Resolves" you will act on in the House of Delegates during this annual session of the medical society.

The Planning Conference in Williamsburg, I feel, gave your officers not only a chance to think and plan, but an opportunity for fellowship and exchange of ideas and ideals that we each had for the society for this year. This conference also provided unity and harmony among the officers which continued during the entire year. I am indeed deeply indebted to these 26 people who gave of their time and expertise to the medical society at this Planning Conference.

During this past year, and for the first time, your society enjoyed the representation by four additional delegates from the Specialty Sections to the House of Delegates of the American Medical Association. They were Thomas B. Dameron, Jr., M.D., Raleigh, Section on Orthopedic Surgery; Nicholas B. Georgiade, M.D., Durham, Section on Plastic Surgery; Kenneth M. Brinkhouse, M.D., Chapel Hill, Section on Pathology; William R. Hudson, M.D., Durham, Section on Ear, Nose, and Throat. This gave the North Carolina AMA Delegation nine voting members in the House of Delegates instead of its regular five North Carolina delegates.

We have two society members serving on American Medical Association Councils. Eben Alexander, Jr., M.D., Winston-Salem, was elected in June of 1978 to membership on the Council on Medical Education and John Glasson, M.D., Durham, is serving as vice-chairman of the Council on Medical Service.

One of our primary goals this year has been Voluntary Cost Containment. The North Carolina Medical Society, cooperating with the North Carolina Hospital Association, formed the North Carolina State Steering Committee on Voluntary Cost Containment. This committee was composed of physicians, representatives from Blue Cross-Blue Shield, commercial insurance companies, hospitals, state government and the Duke Endowment. The committee's board representation emphasizes that the Voluntary Cost Containment effort is a health care cost containment program involving our entire profession and all allied health fields. The committee is working to encourage systematic review and reassessment by each hospital of operating budgets with the direct involvement of medical staffs and hospital trustees.

The North Carolina Hospital Association recently compiled cost information from North Carolina hospitals showing a reduction of 3.6% in the rate of increase for hospital expenditures since 1976. For the fiscal year ending in 1976, the rate of increase in expenditures was 15.8% over 1975. This rate was 16.3% in 1977 and was 15.15% in 1978.

This reduction in total expenditures took place in spite of the fact that there was a 2.7% increase in admissions for the year ending in 1976 and 2.4% in

1977, with practically no change in admissions projected for 1978.

Blue Cross reports that 133 short-term general hospitals reported the 1977 rate at a 14.3% increase and is projecting an 11.5% increase in total hospital expenses for the 1978-79 year. Total revenues are projected at 11% for 1979 from hospital budget estimates.

Nationally, hospitalization utilization in 1978 decreased from 1977 levels. Overall inpatient days had a slight decrease of 0.25%. Outpatient visits were reduced by 1.7% in contrast to the 6.1% increase that occurred for the period ending September, 1977.

The first nine months of 1978 show that inpatient days for persons under 65 increased 2% from the corresponding period in 1977, while inpatient days, for persons 65 and over, rose 3.9%. Utilization for the 65 and over population has been increasing faster than the total utilization during the past decade. The proportion of admissions for the 65-and-over group has risen from 20.3% in 1968 to 26.1% in 1978 and inpatient days from 33.4% to 38.3% during this period.

In North Carolina the hospital length of stay from 1977 to 1978 was reduced 5.7% from 7.69 days in 1977 to 7.25 days in 1978. The cost per stay in 1978 was up 10.7% in North Carolina compared to the national average of 11.2%.

In North Carolina during 1978 the average cost per stay was \$1,022.00 compared to the national average of \$1,273.00.

This State Steering Committee on Voluntary Cost Containment has done an excellent job and each physician of our society should strongly support their efforts in every way possible. Physicians must try in our individual practices to continue to emphasize cost containment. The voluntary effort in the past year has resulted in a recent downturn in hospital spending. The National and State Steering Committees feel that the Voluntary Effort is a more effective mechanism for reducing inflation in the health care industry and for helping achieve the objectives of President Carter's anti-inflation program.

The Executive Council approved a request from the North Carolina Division of Archives and History to purchase a World War II Railroad Ambulance Train car for the Historic Spencer Shop (North Carolina Transportation Museum) which is being constructed in the old Railroad Roundhouse at Spencer, N.C. Society members made donations to the North Carolina Medical Society Foundation, Inc., and this railroad ambulance train car was purchased for \$4,000. It has been donated to the Transportation Museum. I feel that this was a fine contribution from the society to the Historic Spencer Shops which in years to come will be a national tourist attraction in North Carolina.

The Annual Society Committee Conclave was held at Mid-Pines on September 27-30, 1978. Forty of our 52 committees held meetings which were well attended with much interest and enthusiasm from the

members. At this time, I would like to thank the members of the Executive Council, commissioners, committee chairmen and individual physician members of the committees for giving their time and talents to this conclave. With the dedication and devotion of these physicians and the leadership of your officers, the work of our society was in good hands. Many excellent recommendations and resolutions were passed from these forty committees to the Executive Council and have been acted upon and implemented during the year. I have been greatly impressed this year with the unselfish attitude and earnest work of our committee chairmen and these committee members in performing their duties and functions to promote medical care in our profession in North Carolina.

Due to the unfortunate death of Archie T. Johnson, Jr., M.D., first vice-president of the society, Albert Stewart, Jr., M.D., Fayetteville, was elevated to first vice-president and T. Tilghman Herring, M.D., Wilson, was elected to serve as second vice-president.

On November 2, 1978, Governor James B. Hunt announced the appointment of Hugh H. Tilson, M.D., as director of health services in the Department of Human Resources. He assumed his duties on January 1, 1979, and replaced Jacob Koomen, M.D., who resigned October 31, 1978, and is now professor of health administration, UNC School of Public Health.

Dr. Jacob Koomen was presented a certificate of appreciation from the society on February 4, 1979, which stated "... in Grateful Recognition of meritorious contribution to the accomplishment of the purposes of this Society." In his capacity as director of the North Carolina Division of Health Services from 1966 to 1978 he had served as an ex-officio member of the Executive Council of the society.

To enhance our work in the North Carolina General Assembly and increase our efforts in legislative matters for this year, Mr. Thomas L. Adams joined the staff on November 16, 1978, as director of governmental affairs. He has brought to us political experience and has greatly assisted our committee on legislation in working with the legislature this year on the many bills introduced affecting the practice of medicine in our state.

One item which was of great concern to many physicians this year was the second surgical opinion. The Prudential Insurance Company, as carrier for Medicare in North Carolina and in compliance with Health, Education, and Welfare regulations, signed 975 doctors for the Second Surgical Opinion Panel. North Carolina Blue Cross and Blue Shield stated that approximately 1,600 physicians have agreed to serve as "consultant panelists" to provide presurgical examinations for their subscribers who are entitled to benefit coverage for such service. Presently, this is applicable only to 10,000 Southern Bell employees in North Carolina. The Executive Council,

after a long and thorough discussion, passed a motion to recommend to the membership not to place their names on any closed or open panel list for second surgical opinion.

One of the most difficult issues this year has been the continuing medical education requirement for medical society membership. The House of Delegates passed a resolution in 1974 requiring 150 hours of continuing medical education during a three-year period, with the first three-year cycle ending December 31, 1977. On that date there were over 800 physicians who had not completed these requirements. The Executive Council voted to give these physicians a one year extension — extending this to December 31, 1978. At that time there were 281 society members who had not completed their continuing medical education requirements. I am happy to report at this time that there are only 84 physicians who have not completed these requirements for society membership. Many of these physicians are in the older age group and have stated they are retiring now or plan to retire very shortly. In comparison with other state medical societies which have instituted these requirements, our state has less percentage loss of membership than was expected. There have been many letters and pleas for extension from physicians due to varied and extenuating circumstances. However, the Committee on Medical Education and the Executive Council has steadfastly held to the continuing medical education requirements as passed by this House of Delegates.

On February 2-3, 1979, the Conference for Present and Future Medical Leaders was held in Raleigh, N.C. There were 120 physicians in attendance. Lowell H. Steen, M.D., a member of the AMA Board of Trustees, William C. Phelps, M.D., chairman of the AMA Council on Legislation, Sarah T. Morrow, M.D., secretary of the Department of Human Resources, and Mortimer T. Enright, director of AMA's Speakers and Leadership Programs, and other fine speakers presented an excellent program. Many who attended expressed their appreciation to the society for this comprehensive insight and review of medical problems.

It was my pleasure, at the American Medical Association's Annual Leadership Conference in Chicago, February 15-18, 1979, to accept an award presented to the North Carolina Medical Society for increased AMA membership for six continuous years and additionally recognized for a 33% increase in AMA membership over the past ten years. I was proud that North Carolina was the only state so recognized at this conference for the 10-year membership increase. I would encourage each of you to continue your AMA membership. Medicine today needs a strong national organization to support our interests in the nation and especially in the United States Congress.

Each county medical society president has been requested to appoint a Vanguard Committee for his society. This committee would provide for members

more information, organization, and involvement in health planning decisions now being made in each county and area. It would be the beginning of a comprehensive long-range program that physicians could use to address present health issues of local, state and national interest. This committee would be working with the planners to make projects reasonable, valid, and as realistic as possible. One of the most important activities of this Vanguard Committee would be to appoint one or more members to your local Health Systems Agency to assist their projects and plans committees relating to health care issues in your community and area. Each county society definitely needs physicians involved early in the health planning for your area. Health planning should be a local process. If we fail to make our views heard, the Health Systems Agency will interpret silence as a tacit approval of plans they have prepared without our full participation. To coordinate the efforts of the local society's Vanguard Committee, we are studying the possibility of employing a health planning society staff member.

I believe that our society can have more input in the local and regional health planning for the future through these Vanguard Committees.

I feel that the State Medical Society should stimulate a closer relationship with the state specialty societies. The medical society should make provision for input from speciality societies as organizations trying to deal with speciality society interests and concerns. The state society should provide for speciality society representation in state society policy making bodies. The state society should provide the formal and direct speciality society representation in the development of legislative policy. The speciality society representation should be chosen by the specialty societies. For maximum legislative effectiveness, the state society should provide a mechanism to keep the activities and interests of the specialty society within the state association. With our legislative liaison staff person this year, we have tried to incorporate the efforts of the specialty societies with the state society. State society should provide staff support for specialty societies, house specialty society functions, and maintain formal administrative linkage. Our medical society should provide a mechanism, such as an interspecialty committee within the state society, whereby the special interests of the individual specialty societies can be considered and differences among the societies can be resolved in the best interest of medicine as a whole. With our profession now more than ever fragmented into specialty groups, we need and must

work harder in the future to combine the efforts of all physicians for better health care of our patients.

The problem of the impaired physician is one which our society must face. This year there has been emphasis placed on the Committee on Physician's Health and Effectiveness to deal early and more aggressively with physicians who have alcohol, drug, or other problems which affect their practice of medicine. The two leading problems the committee faces in persuading physicians to enter treatment are denial of illness and concern over possible loss of income. Your society would like to provide every assistance possible in the early treatment and rehabilitation of these impaired physicians.

It has been a most pleasant year working with the officers, Executive Council, commissioners, committee chairpersons, committees, and our headquarters' staff. I would like to thank personally Mr. William N. Hilliard for his courteous assistance. On May 1st of this year, Bill Hilliard began his 28th year of service to our medical society — the longest tenure of any employee of the North Carolina Medical Society. Our headquarters' staff is an excellent organization and is talented and experienced in their work. I have received full and strong cooperation from each member of the staff during this year.

In conclusion, I would like to say that I have been extremely proud of our society and it has been a privilege to serve you as president during this year. In all of the society's deliberations and decisions, there has been a deep concern regarding the quality of medical care offered to the people of our state. I am convinced that the art and practice of medicine is "alive and well" in North Carolina and that the citizens of our state are proud and have confidence in the medical profession.

The great British Prime Minister Disraeli once stated, "The health of the people is really the foundation upon which all the happiness and all their powers as a state depend, and, therefore the health of the people becomes a nation's greatest resource."

The health of the people of North Carolina is the primary concern and responsibility of the North Carolina Medical Society. We, as physicians practicing in this great state, must dedicate all of our energy and abilities to give our patients the best medical care in the nation.

I thank you for the honor of serving as president of your society this year, and express my gratitude to each of you for the fine quality of medicine you practice daily with your patients.

I'd like to close with a statement by Ambrose Pare: "I attended him, God healed him."

Thank you.

Annual Address of the President

“Good Health — Good Sense”

D. E. Ward, Jr., M.D.
May 5, 1979

“The only thing necessary for triumph of evil is for good men to do nothing.” Thus stated Edmund Burke.

In bringing you this message, I find myself encompassed by a turmoil of mixed emotions, vacillating between the pleasure and pride in being here and the awesome seriousness of the medical profession.

If you are like I am, then you are greatly concerned and somewhat overwhelmed by the tremendous pressures, accusations, and obvious campaigns against organized medicine. You are becoming increasingly concerned about this great country of ours and the direction in which it seems to be drifting. Change in the United States seems to be without the great purpose which contributed so much to this country's founding and earliest years.

A famous American citizen, Will Rogers, was a very close confidant and consultant to President Woodrow Wilson.

President Wilson used to talk with him when he wanted to think out a very tough problem. He called Will Rogers one day during World War I and said, “What should we do about the U-boat menace?”

Mr. Rogers stated he would have to think about the situation and came back a little later and said he had the answer.

“What you should do, Mr. President, is bring the Atlantic Ocean to a boil, evaporate all the water, and the U-boats would be on top. Then you could destroy them.”

The President said, “Now, how in the world would you do that?”

Given before the Second General Session, North Carolina Medical Society, Pinehurst, North Carolina, May 5, 1979.

He said, “Don't bother me with technical details. I'm an advisor on policy.”

I'll try to be reasonably practical in my comments but I cannot promise you much more than Will Rogers.

If you are like I am, you are really peace-loving, but within yourself you are feeling a growing sense of frustration and a desire for aggressive action.

To understand why medicine is where it is and why we are subject to these pressures, one must understand what is going on in America, for we physicians are deeply immersed in this caldron of confusion.

America, the land of the free — created and repeatedly defended by the brave, conceived, and built by free and independent men and women. A country where the individual was all-important and the government was there to serve him. This was the America that made people around the world dream and aspire to become a part thereof. Some died in an effort to get here; many made it. It was a land of unlimited resources and unlimited potential.

The shoemaker's son who was destined in the Old World to become a shoemaker because all other avenues were closed to him could come to America and become almost anything if two conditions were met. First, he must have adequate intelligence, which to me is a God-given attribute, and secondly, he had to work and perform. The sky was really the limit.

In addition, this country was huge in its resources beyond belief. Its potential could only be realized by a dreamer, for only such an individual had the insight and wisdom to sit down and write a constitution such as ours. One that created a system of checks and balances, that separated state and church so that the national conscience and morality would not be subject to government law and regulation. Most importantly,

a country where individual rights and personal freedom were paramount.

Within this framework of idealism and liberty, a nation grew and prospered with rapidity and success such as the world has never seen before, and quite likely will never see again. And yet, we find that many and most of the principles that made this country great are being repudiated by the government in a aura of economic and political policies that threaten the individual liberties of every citizen and the collective growth of our nation.

Arthur Krock, who was chief of the Washington Bureau of the *New York Times*, wrote, "The United States merits the dubious distinction of having discarded its past and its meaning in one of the briefest spans of modern history."

It should not come as a surprise, or as sudden news, to any of us that there is loosely cohesive corps of intelligentsia that dwells in ivied halls, government office buildings, bureaus and agencies; that lives and operates with the philosophy that a socialistic government is best for the United States. This is the hidden power in government that must never be subject to the test of the electoral process, while functioning to a large extent without firm control from those whom we choose as our leaders. We are seeing an example of the power of this hidden group, in President Carter's administration today.

Milton Friedman, perhaps the most outstanding economist in America today, now retired, and a Nobel laureate, eloquently voiced the problem.

"The view that if there is a problem, if there is something wrong, the way to deal with it is to pass a law, set up a government agency (staffed, of course, by the intellectuals urging this situation) and use the police power of the state to correct it. It is a superficially appealing view.

"On the other hand, the view that the government is the problem, not the cure, and that the invisible hand of private cooperation through the market is far more effective than the visible hand of government, is a sophisticated, subtle view that is far harder to get across."

So we find ourselves today in the circumstances where forty percent of the total national income is spent to run all forms of government and twenty percent of all employed people work for the government.

Woodrow Wilson stated, "Liberty has never come from the government — the history of liberty is the history of the limitation of governmental power, not the increase of it."

We are now faced with the concept of limited resources in America, be it either gasoline or finite funds for health care.

William E. Simon, former secretary of the Treasury, in his book "A Time For Truth," points out that individual liberty and freedom are rapidly disappearing in this country because of too much government. He also points out that the greatest ills and problems facing this country have been created by government meddling, but most importantly, he accentuates the

fact that experience has shown that as soon as a country falls into the trap of governmental intervention in the aspects of everyday life, the economic growth and status of that country rapidly wane.

A study of history will note that certain things usually take place in a country as personal liberty disappears. One is the onslaught on the medical and legal professions and another is the downgrading and control of the press. We are seeing this take place in our country today.

William Simon further stated, "Freedom is strangely ephemeral. It is something like breathing, one only becomes acutely aware of its importance when one is choking. Similarly, it is only when one confronts political tyranny that one really grasps the meaning and importance of freedom. Freedom is difficult to understand because it isn't a presence but an absence — an absence of governmental restraint."

It is in this confused and trying country of ours that medicine is struggling and groping, perhaps trying to define and redefine its proper role.

Mr. Aleksander Solzhenitsyn, an exile prophet from our supposed enemy, spoke at Harvard belying the materialism and immediacy that seems to imbue all Americans. He pleaded for a return to the moral and ethical qualities of idealism and goals that motivated our early ancestors. Perhaps, he was speaking to the medical profession.

This history of medicine has always been that of self discipline and of a performance in the care of our patients far above that required by legal definition and licensure. We call upon every physician to continue to perform and manage his medical practice with the same high ethical and moral guidelines to which he subscribed when he entered this profession. And along with this dedication, we must also face the local and immediate problems of our medical society and the health of the citizens of North Carolina.

We have problems of membership, of continued medical liability, of cost control, of attempts by government of practice medicine, of hospital-physician relationship, third-party physician relationships, and of communication with our people.

It would be disastrous and short-sighted indeed if the efforts of organized medicine were restricted to the solution of day-to-day problems alone.

We, in medicine, have a far greater concern for our citizens and for our country and we must sit down with the responsible leaders of the press, of the legal profession, and of business, in public forums to assess the role of government and its direction in the future of America.

Any institution, such as the medical profession, which is vital to the welfare and well-being of our people, can expect to be under fire and pressure from all sides. The greater our role in society, the more we will be in the spotlight. We must not let the fear of what others — that is government, bureaucracy, and politicians — might do deter our profession from its call to bring the best medical care for the most people.

To all of us who are deeply involved in medicine,

stop feeling defensive, cast out your paranoia, and discard your feelings of inadequacy. We enjoy the respect and admiration of the American people and we will continue to merit their esteem as long as we meet two criteria. One, that we continue to practice the highest level of medical care, and, two, that we continue to show concern and empathy to our patients.

We must not sit back passively and allow others to create and enact decisions. We have talent and we have skill. We should make positive propositions, not only in delivery of health care, but in association with the above mentioned groups, in all areas that affect the lives of American citizens. We should be concerned with energy, with individual freedom, with unbalanced budgets, and with ineffective and costly government, as well as the attempt to ration health services and their burdening costs. We should be creative, innovative, and still practical. We should ally ourselves with those outside of medicine who care and are concerned.

Now, we physicians in North Carolina can no longer be considered a totally free profession, in the full sense of that expression, but we still have the capability to contribute.

We still have the capability to offer leadership to the development of programs for the improvement of the health of our people.

We still have in our heart the public interest. We shall not, in my opinion, yield that to an excessively paternalistic government. That is the genius of the American democratic system, and it is one which we must continue to uphold through our profession.

I would like to conclude by paraphrasing this prayer by Reinhold Niebuhr.

May God grant us the serenity to accept the things we cannot change. May God grant us physicians the courage to change those things we can. May God grant the medical profession the wisdom to know the difference.

Thank you.



A new, high-potency, glycine-precipitated antihemophilic factor (AHF, factor VIII) concentrate, from 100 to 400 times purified, can be administered to patients in solutions 100 times more concentrated than plasma. The product appears to be stable and causes no immediate untoward side reactions. The plasma AHF levels of patients with classical hemophilia can be normalized with small volumes of the glycine-precipitated material given by syringe. Surgery can be performed safely under cover of this fraction. Two patients with classical hemophilia complicated by a circulating inhibitor to AHF were treated with large amounts of the high-potency fraction; partial to complete neutralization of the inhibitor occurred with clinical improvement.

The rationale for the development of even better AHF concentrates becomes more apparent with the realization that prophylactic therapy is mandatory for the optimal management of classical hemophilia. In this way, spontaneous hemorrhages should be largely prevented and crippling joint disease and catastrophic hemorrhagic episodes could be eliminated. It has already been shown in our hemophilic dog colony that chronic crippling hemarthrosis can be largely prevented by intensive and frequent plasma transfusions. While we have no experience as yet with the high-potency AHF fraction for prophylactic treatment, the fact that high doses can be administered rapidly by syringe and that the effect lasts for a few days are a promising attribute. The general availability of this fraction and the ease of administration may permit hemophiliacs to be treated at home by competent trained members of the family. Even more highly purified AHF fractions may provide useful tools for basic studies needed to elucidate the role of AHF in hemostasis. — Kenneth M. Brinkhous, Edward Shanbrom, Harold R. Roberts, Zilliam P. Webster, Lajos Fekete, and Robert H. Wagner. A New High-Potency Glycine-Precipitated Antihemophilic Factor (AHF) Concentrate *JAMA* 205:613-617, 1968. (Reproduced with permission; copyright 1968, American Medical Association.)

Five Metachronous Malignant Neoplasms: A Follow-Up Report

John M. Russell, M.D., Richard T. Myers, M.D., and
Lloyd H. Harrison, M.D.

ABSTRACT A patient treated earlier for four separate primary malignancies is found to have a ureteral tumor. Her case, previously reported, is reviewed in light of the fifth separate malignancy, with the suggestion that clinicians be alert to the possibility of new primary malignancies in those who have already been treated for cancer.

SINCE the first recording of the occurrence of multiple primary malignant neoplasms in a single patient by Billroth in 1819, many reports have been published.¹ We here report on a patient with quadruple primary malignancies who now has a documented fifth separate primary malignancy.²

CASE REPORT

A 66-year-old white woman was first seen at age 49 in May, 1961, with an exacerbation of lumbar back pain with radiation to the lateral aspect of her right thigh. The pain was worse upon straining, coughing, walking or standing. In 1955, she had undergone a total abdominal hysterectomy and bilateral

salpingo-oophorectomy and had received irradiation for adenocarcinoma of the uterus. In 1960, resection of 10 inches of transverse colon with local metastases to two of nine regional lymph nodes was done. Tissue sections of these tumors were reviewed and the diagnoses of adenocarcinoma of the endometrium and colon were confirmed. Her lumbar back pain was secondary to the prolapse of an intravertebral disc at the level of L-4, 5. Her symptoms responded to a lumbar laminectomy.

The patient was readmitted in 1961 complaining of fatigue, extreme dizziness and blood in her stool. Her hemoglobin was 9.5 gm and barium enema revealed a small irregular anular constriction in the hepatic flexure of the colon. After metastatic work-up was negative, laparotomy was performed and three inches of the distal ileum and the right to mid-transverse colon was resected and an ileotransverse anastomosis carried out. There were no gross hepatic metastases. At surgery and on pathological examination, the previous anastomosis was free from tumor. A separate primary malignancy 5 cm proximal to the anastomosis was circumferential and stenotic and was identified as a moderately differentiated adenocarcinoma of the colon. An

adjacent mesenteric mass was also identified as carcinoma of the colon. Postoperatively, she had an uneventful course.

In April, 1973, the patient complained of left flank pain, apathy, fatigue and two episodes of gross hematuria during the preceding months. Microscopic hematuria, which disappeared with antibiotic administration, had occurred several times before. Her hemoglobin was 13.3 gm; urinalysis revealed more than 50 WBCs per HPF and 4 RBCs per HPF.

The left upper urinary system could not be defined by intravenous pyelograms. Barium enema and chest x-ray revealed no evidence of metastatic disease. Cystoscopy revealed a normal bladder while retrograde pyelography showed numerous left pelvic and ureteric filling defects with pyelocaliectasis. Subsequent renal angiography disclosed a small hydronephrotic left kidney without neovascularization. Urinary cytology was positive for transitional cell carcinoma of the left renal pelvis and left ureter. At nephroureterectomy, there was no evidence of hepatic or intraperitoneal malignancy.

Since then, she has been followed with cystoscopies, urine cytologies and interval right retrograde pyelograms. In 1974, a suspicious region

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in the right middle pole calyx was seen; it has remained unaltered. Recurrent urinary tract infections have responded to antibiotic administration.

In December, 1977, the patient was readmitted because of sudden anuria and uremic symptoms. Her BUN was 142 mg/dl and the serum creatinine 18.9 mg/dl. Chest Xray showed no evidence of carcinoma and her hemoglobin was 8.1 gm. Cystoscopy and right retrograde pyelogram demonstrated an obstructed right ureter in its middle-third; and a ureteric stent could not be passed beyond this. On December 9, following peritoneal dialysis, the patient was explored extraperitoneally and a right ureteral tumor found. The renal pelvis was free of tumor. A primary ureteroureterostomy was performed with nephropexy and insertion of nephrostomy tube. The pathology revealed invasive, poorly differentiated transitional cell carcinoma. The ureteral margins were free of tumor, although distally there was some dysplasia. Following surgery renal function improved and the nephrostomy tube was removed in January, 1978. Follow-up examinations have revealed no evidence of malignancy.

DISCUSSION

This patient has five separate sequential malignancies if the proposal suggested by Warren and

Gates³ is accepted: (1) each tumor presents a definite histologic picture of malignancy, (2) each is anatomically distinct, and (3) the probability of one being a metastasis of another can be excluded. This patient is now the fifth reported case of five separate sequential malignancies fulfilling these criteria.⁴⁻⁷ She had adenocarcinoma of the uterus, transitional cell carcinoma of the left renal pelvis and ureter, transitional cell carcinoma of the right ureter, adenocarcinoma of the transverse colon and adenocarcinoma of hepatic flexure. Multiple colon and uroepithelial tumors are not in themselves a rare occurrence, but in this case it appears that entirely separate tumors did occur.

The reported frequency of multiple tumors varies from 1%⁷ to 11%.⁸ more frequently than would be expected by chance.⁹ The cause of this increased susceptibility is unclear although a defect in immunologic surveillance must be considered. Many series have shown that an individual who has more than one malignancy is more likely to have a second malignancy in the same tissue or organ system, presumably because of the persistence of the offending carcinogen. If a growth suppressive factor is produced by the initial malignant lesion and operates on tissues adjacent to it, development of a new primary cancer after removal of the neoplasm is a possibility.¹⁰

Patients treated for cancer re-

quire careful follow-up. When symptoms or signs of malignancy develop in those previously so treated, the possibility of new primary malignancy should be strongly considered. The patient who survives a tumor in one organ system appears to have at least as good a chance of cure of a second tumor as the patient who presents with a first malignancy.¹¹ No patient should be allowed to die of a second or third primary neoplasm because multiple primary tumors were not considered. That these patients have a high susceptibility for carcinoma does not make their chances of cure less.¹² It is important to identify patients who have more than one primary malignancy so that they can be followed even more closely.

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An Effective Palliative Treatment For Phenothiazine-Induced Tardive Dyskinesia

Wilmer C. Betts, M.D., Frank S. Johnston, Jr., M.D.,
and Myra J. Pratt, P.T.

ABSTRACT A patient with severe phenothiazine-induced tardive dyskinesia was treated with transcutaneous nerve stimulation (TENS) with complete control of choreiform and athetotic movements and suppression of the neck pain from involuntary movements of the nuchal muscles.

WE were fortunate enough to stumble upon what appears to be an effective palliative treatment for phenothiazine-induced tardive dyskinesia. The patient's history and treatment are described below.

CASE REPORT: The patient is a 51-year-old middle-class housewife. Six years earlier she had been given triluoperazine hydrochloride for anxiety and depression with satisfactory results. A year ago she and her husband observed some nervousness and mouthing movements which were not evident to us until August, 1977. During that year she had also received both perphenazine and amitriptyline hydrochloride. Between May and August, 1977, the movements grew more extensive and severe. In May, 1977, the husband noticed a clockwise

rotary movement of her jaw and some involuntary movement of the tongue. The patient then found that rotating her head acutely to the right tended to suppress the jaw movements. By August, 1977, when she was seen by her physician, she had severe involuntary muscular movements involving the tongue, lips, jaw and neck. Every 30 to 45 seconds she would rotate her head to the right as sharply and as far as possible so that her sternocleidomastoid muscles stood out like ropes. She would simultaneously push her tongue forward and grimace, showing her teeth. By the end of the day, as a result of the severe rotation of the neck, the patient would have severe, aching pain in her neck muscles. The shame and incapacity from her tardive dyskinesia caused her to become depressed and withdrawn.

During October, 1977, the following medications were prescribed with no improvement: diphenhydromine, beztropine mesylate, chloridazepoxide hydrochloride, carbidopa and levodopa, barbitrates, clorazepate dipotassium and deanol.

The patient was hospitalized in March, 1978. After psychological testing revealed no evidence of hysteria, amitriptyline hydrochloride was prescribed because of the

depression and weight loss. Physical therapy, such as relaxation exercises, ultrasonic sound and hot packs, was also employed with some relief of pain.

Because of the severity of her pain, she was evaluated for transcutaneous nerve stimulation (TENS) for relief of pain. The TENS machine was used with two electrodes on the superior extremity of the left and right sternocleidomastoid muscles and the other two about two inches above the clavicle laterally and at "trigger points of pain." The stimulation was begun early on the afternoon of March 25, 1978. By 8 p.m. the following day involuntary movements had disappeared. The patient was continued on a schedule of TENS for two hours in the afternoon and two hours before bedtime. The control of neck pain and the involuntary muscular movements continued.

Outpatient visits have confirmed the control of pain and the involuntary movements with daily use of TENS.

As of October 18, 1978, the patient's neck movements had disappeared. She reported occasional twitching of her mouth. She had decreased the frequency of the TENS and had not used the machine recently.

Antiparkinson Drugs in Paranoid Schizophrenia

Jesse O. Cavenar, Jr., M.D., Ernest R. Braasch, M.D., and
John L. Sullivan, M.D.

ABSTRACT The literature concerning the use of antiparkinson drugs, in particular their prophylactic application, is reviewed. We found that, in general, recommended prescribing practices were followed on an acute care, university-affiliated bed service; a notable exception was with the paranoid schizophrenic population, reasons for which are discussed. We suggest that paranoid, delusional patients as a group may present indications for use of antiparkinson drugs which differ from the general population.

THE increase in the use of antipsychotic drugs in the past two decades has been paralleled by an increase in the use of antiparkinson drugs to treat the extrapyramidal symptoms produced by the former. DiMascio and Sovner¹ note that the use of antiparkinson drugs tripled between 1970 and 1974, that 35%-40% of all patients started on neuroleptics are also given antiparkinson drugs prophylactically, and that only 30% of patients treated with neuroleptics will develop extrapyramidal reactions. There is no method to determine which patient will experience these side effects.

The practice of prescribing anti-

parkinson drugs prophylactically with antipsychotic agents and the need for continuing them has been studied by several investigators, who suggest that preventive medication may be discontinued after it has been given for three months. Klett and Caffey² studied 403 chronic schizophrenic men receiving both antipsychotic and antiparkinson drugs for at least three months and found that 82% of them did not experience a return of extrapyramidal symptoms when the antiparkinson drug was discontinued and the antipsychotic continued. They concluded that antiparkinson drugs should be discontinued for patients who have received the drug for three months or longer, and that those who have the appearance of extrapyramidal symptoms should then be given the antiparkinson drug. Orlov et al³ studied patients who had been receiving both antipsychotics and antiparkinson drugs and observed that after withdrawal of the antiparkinson drug fewer than 10% of the patients had a recurrence of extrapyramidal symptoms requiring the resumption of prophylactic therapy. Cahan and Parrish⁴ and Mandell and Oliver⁵ reported similar findings. It seems clear that antiparkinson drugs may be discontinued after patients have received them for three months and that only 10%-20% of patients will have a recurrence of parkinson-like symptoms. These patients may then be

restarted on antiparkinson drugs to control those symptoms.

Lapolla and Nash⁶ studied 49 patients who had extrapyramidal reactions to a phenothiazine alone; with the phenothiazines and an antiparkinson agent only 12 experienced extrapyramidal reactions. When the antiparkinson drug then was discontinued and the antipsychotic continued, only nine more patients developed parkinsonism. This study has been criticized, however, because the number of patients showing a decline in side effects may have experienced spontaneous remission of side effects which should not be attributed to a prophylactic agent.

Hanlon et al⁷ studied 122 patients treated with perphenazine alone, or with a combination of perphenazine and an antiparkinson drug. Of those treated with perphenazine alone, 29% developed extrapyramidal signs, whereas 10% of the other group had side effects. However, this study is suspect because patients receiving only perphenazine took 5 mg more per day than the others.

Singh⁸ has presented data to suggest that the addition of antiparkinson drugs to a haloperidol regimen for treatment of acute schizophrenia reversed the course of some of the therapeutic change, primarily in social avoidance behavior, induced by the haloperidol.

DiMascio⁹ opposed antiparkin-

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The opinions are those of the authors and not those of the U.S. Veterans Administration.

son prophylaxis, finding little evidence that such drugs prevent extrapyramidal reactions in susceptible persons. He recommends that antiparkinson drugs be withheld until extrapyramidal symptoms appear when the drugs will provide rapid relief. The Veterans Administration also recommends¹⁰ that antiparkinson medication be administered only to control manifest extrapyramidal symptoms because prophylactic use is not scientifically valid, can lead to such anticholinergic side effects as lethargy, dizziness, blurred vision and gastrointestinal disturbance, and is not economical.

We have recently surveyed prescribing practices on our psychiatry service which consists of 85 inpatient beds with a medical staff of 10 board-certified psychiatrists and six residents. The service is strongly university-affiliated and is a short-term treatment unit for acute patients. We found that only 25% of those taking antipsychotic medications were receiving an antiparkinson agent. In most cases, the antiparkinson drug was prescribed after the appearance of extrapyramidal symptoms. The one clear exception to this general prescribing pattern, however, was the paranoid patient. It appeared that antiparkinson drugs were prescribed prophylactically for patients with paranoid conditions (the vast majority of these patients were diagnosed as paranoid schizophrenics).

To delineate more clearly the prescribing pattern in paranoid subjects, the last 100 patients admitted with the established diagnosis of paranoid schizophrenia were studied. The survey covered 19 months. Bleuler's criteria were

used to validate the diagnosis; 33% had one of Bleuler's criteria, 53%, two criteria, and 14%, more than two. Ninety-five percent of the patients were delusional at the time of admission.

Eighty-one percent of the patients diagnosed as paranoid schizophrenics were started on antipsychotic and prophylactic antiparkinson drugs simultaneously. In 15%, only an antipsychotic drug was given. In 2%, an antipsychotic drug was started and an antiparkinson agent added after extrapyramidal symptoms developed. In the remaining 2%, antiparkinson preparations were begun after antipsychotic drugs had been given, though no extrapyramidal symptoms had appeared.

Thus, it appears that the prescribing practices with paranoid schizophrenic patients is at marked variance with the general prescribing pattern on our service. In an attempt to understand this variation, clinicians were asked why they prescribed as they did. Their responses suggest that there is an unsubstantiated belief, perhaps perpetuated by word-of-mouth, that paranoid schizophrenic patients are difficult to treat; establishing rapport, basic trust, and a therapeutic or working alliance is trying for the clinician under the best circumstances. If a paranoid schizophrenic patient, in addition to his basic disease, has an extrapyramidal reaction, treatment becomes more difficult, at times impossible. The patient may refuse to take any medication, may experience an exacerbation of psychological symptoms, and be generally unmanageable. Most clinicians agreed that, once the psychosis is in remission, the antiparkinson agent

can be stopped; if the patient then experiences an extrapyramidal reaction, the drug can be given to control it. It was the prevailing view that an extrapyramidal reaction occurring after the psychosis was in remission did not have the marked effect on treatment outcome that such a reaction might have when the patient was psychotic, delusional and suspicious.

No studies were found which either prove or disprove this notion held by many clinicians. A large systematic prospective study needs to be done to demonstrate whether in fact there is a correlation between a paranoid schizophrenic patient experiencing an extrapyramidal reaction and his failure to subsequently take prescribed medication, thus necessitating rehospitalization. If a correlation can be demonstrated, it might be considered adequate clinical justification for the prophylactic use of antiparkinson agents in acute paranoid schizophrenics.

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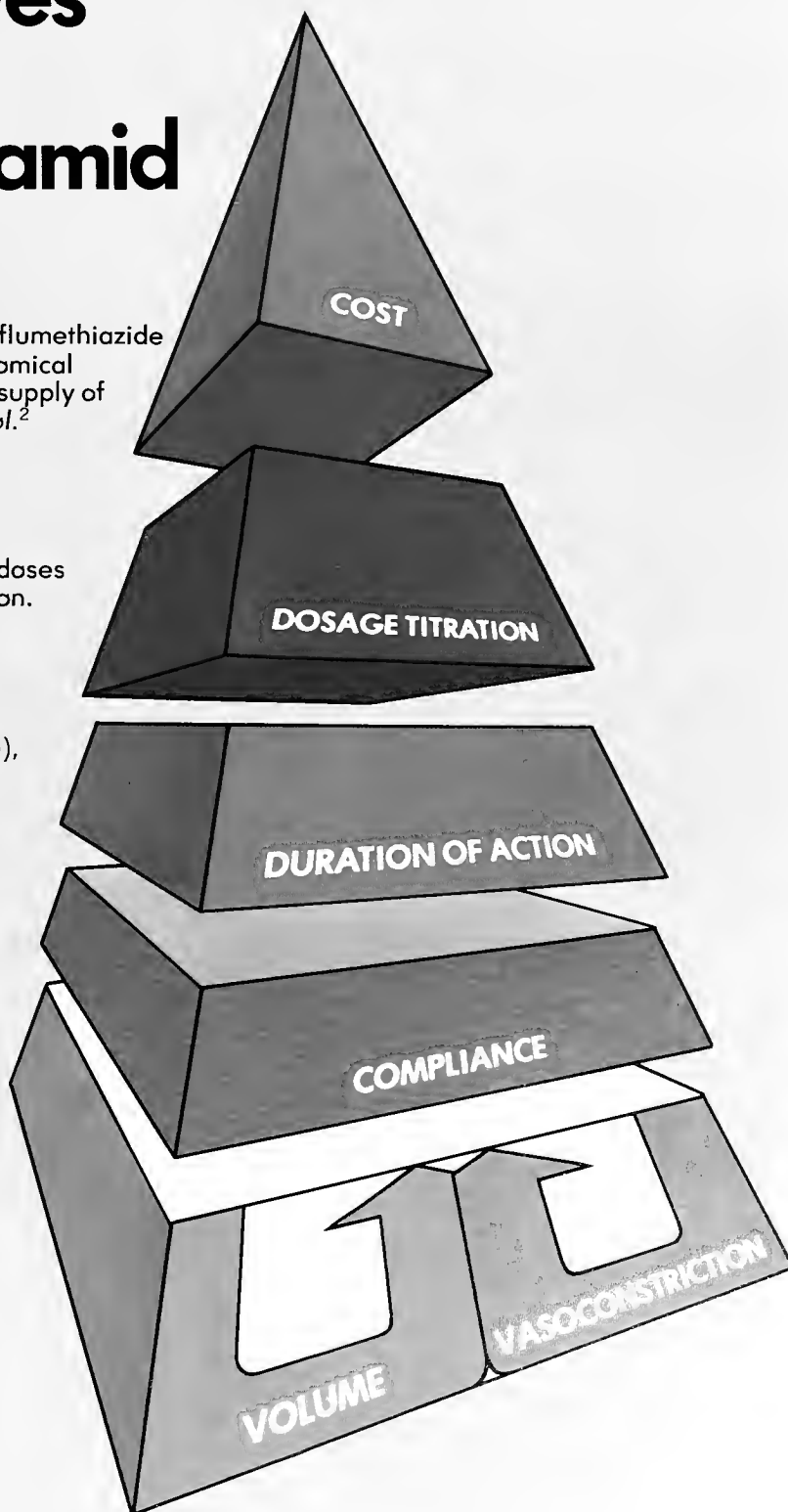
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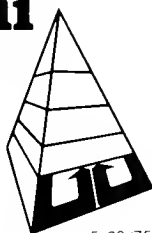
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WARNINGS: Saluron should be used with caution in severe renal disease. In patients with renal disease, thiazides may precipitate azotemia. Cumulative effects of the drug may develop in patients with impaired renal function.

Thiazides should be used with caution in patients with impaired hepatic function or progressive liver disease, since minor alterations of fluid and electrolyte balance may precipitate hepatic coma. Thiazides may be additive or potentiative of the action of other antihypertensive drugs. Potentiation occurs with ganglionic or peripheral adrenergic blocking drugs. Sensitivity reactions may occur in patients with a history of allergy or bronchial asthma.

The possibility of exacerbation or activation of systemic lupus erythematosus has been reported.

Usage in pregnancy: Usage of thiazides in women of childbearing age requires that the potential benefits of the drug be weighed against its possible hazards to the fetus. These hazards include fetal or neonatal jaundice, thrombocytopenia, and possibly other adverse reactions which have occurred in the adult.

Nursing mothers: Thiazides cross the placental barrier and appear in cord blood and breast milk.

PRECAUTIONS: Periodic determination of serum electrolytes to detect possible electrolyte imbalance should be performed at appropriate intervals.

All patients receiving thiazide therapy should be observed for clinical signs of fluid or electrolyte imbalance; namely, hyponatremia, hypochloremic alkalosis, and hypokalemia. Serum and urine electrolyte determinations are particularly important when the patient is vomiting excessively or receiving parenteral fluids. Medication such as digitalis may also influence serum electrolytes. Warning signs, irrespective of cause, are: Dryness of mouth, thirst, weakness, lethargy, drowsiness, restlessness, muscle pains or cramps, muscular fatigue, hypotension, oliguria, tachycardia, and gastrointestinal disturbances such as nausea and vomiting.

Hypokalemia may develop with thiazides as with any other potent diuretic, especially with brisk diuresis, when severe cirrhosis is present, or during concomitant use of corticosteroids or ACTH.

Interference with adequate oral electrolyte intake will also contribute to hypokalemia. Digitalis therapy may exaggerate metabolic effects of hypokalemia especially with reference to myocardial activity. Any chloride deficit is generally mild and usually does not require specific treatment except under extraordinary circumstances (as in liver disease or renal disease). Dilutional hyponatremia may occur in edematous patients in hot weather; appropriate therapy is water restriction, rather than administration of salt except in rare instances when the hyponatremia is life threatening. In actual salt depletion, appropriate replacement is the therapy of choice.

Hyperuricemia may occur or frank gout may be precipitated in certain patients receiving thiazide therapy.

Insulin requirements in diabetic patients may be increased, decreased or unchanged. Latent diabetes mellitus may become manifested during thiazide administration.

Thiazide drugs may increase the responsiveness to tubocurarine.

The antihypertensive effects of the drug may be enhanced in the postsympathectomy patient.

Thiazides may decrease arterial responsiveness to norepinephrine. This diminution is not sufficient to preclude effectiveness of the pressor agent for therapeutic use.

If progressive renal impairment becomes evident, as indicated by a rising nonprotein nitrogen or blood urea nitrogen, a careful reappraisal of therapy is necessary with consideration given to withholding or discontinuing diuretic therapy.

Thiazides may decrease serum PBI levels without signs of thyroid disturbance.

ADVERSE REACTIONS:

A. Gastrointestinal system reactions: Anorexia, gastric irritation, nausea,

vomiting, cramping, diarrhea, constipation, jaundice (intrahepatic cholestatic jaundice), pancreatitis.

B. Central nervous system reactions: Dizziness, vertigo, paresthesias, headache, xanthopsia.

C. Hematologic reactions: Leukopenia, agranulocytosis, thrombocytopenia aplastic anemia.

D. Dermatologic-Hypersensitivity reactions: Purpura, photosensitivity, rash, urticaria, necrotizing angitis (vasculitis) (cutaneous vasculitis).

E. Cardiovascular reaction: Orthostatic hypotension may occur and may be aggravated by alcohol, barbiturates, or narcotics.

F. Other: Hyperglycemia, glycosuria, hyperuricemia, muscle spasm, weakness, restlessness.

Whenever adverse reactions are moderate or severe, thiazide dosage should be reduced or therapy withdrawn.

USUAL DOSE: The average adult diuretic dose is 25 to 200 mg. per day.

The average adult antihypertensive dose is 50 to 100 mg. per day.

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CONTRAINDICATIONS: Anuria, oliguria, active peptic ulceration, ulcerative colitis, severe depression or hypersensitivity to its components contraindicates the use of Salutensin.

WARNINGS: Small-bowel lesions (obstruction, hemorrhage, perforation and death) have occurred during therapy with enteric-coated formulation containing potassium, with or without thiazides. Such potassium formulations should be used with Salutensin only when indicated and should be discontinued immediately if abdominal pain, distention, nausea, vomiting or gastrointestinal bleeding occurs. Use cautiously, and only when deemed essential, in fertile, pregnant or lactating patients.

Use in pregnancy: Thiazides cross the placenta and can cause fetal or neonatal hyperbilirubinemia, thrombocytopenia, altered carbohydrate metabolism and possibly electrolyte disturbances. Fetal reactions may occur with reserpine during electroshock therapy; discontinue Salutensin 2 weeks before such therapy. Increased respiratory secretions, nasal congestion, cyanosis and anorexia may occur in infants born to reserpine treated mothers.

PRECAUTIONS: Azotemia, hypochloremia, hyponatremia, hypochloremic alkalosis and hypokalemia (especially with hepatic cirrhosis and corticosteroid therapy) may occur, particularly with pre-existing vomiting and diarrhea. Potassium loss may cause digitalis intoxication. Potassium loss responds to potassium-rich foods, potassium chloride or, if necessary, discontinuation of therapy. Serum ammonia elevation may precipitate coma in precomatose hepatic cirrhotics. Discontinue therapy 2 weeks before surgery or if myocardial irritability, progressive azotemia or severe depression occur. Exercise caution in patients with chronic uremia angina pectoris, coronary thrombosis or extensive cerebral vascular disease or bronchial asthma and in those with a history of peptic ulceration or bronchial asthma; in postsympathectomy patients; in patients on quinidine; and in patients with gallstones, in whom biliary colic may occur. Patients who have diabetes mellitus or who are suspected of being pre-diabetic should be kept under close observation if treated with this agent.

ADVERSE REACTIONS: Hydroflumethiazide: Skin-rashes (including exfoliative dermatitis), skin photosensitivity, urticaria, necrotizing angitis, xanthopsia, granulocytopenia, aplastic anemia, orthostatic hypotension (potentiated with alcohol, barbiturates or narcotics), allergic glomerular nephritis, acute pancreatitis, liver involvement (intrahepatic cholestatic jaundice), purpura plus or minus thrombocytopenia, hyperuricemia, hyperglycemia, glycosuria, malaise, weakness, dizziness, fatigue, paresthesias, muscle cramps, skin rash, epigastric distress, vomiting, diarrhea and constipation. **Reserpine:** Depression, peptic ulceration, diarrhea, Parkinsonism, nasal stuffiness, dryness of the mouth, weight gain, impotence or decreased libido, conjunctival injection, dull sensorial deafness, glaucoma, uveitis, optic atrophy, and, with overdosage, agitation, insomnia and nightmares.

USUAL DOSE: 1 tablet b.i.d.

HOW SUPPLIED: Salutensin (hydroflumethiazide 50 mg., reserpine 0.125 mg.): Bottles of 100 and 1000.

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Editorials

See Page 28.

REGULATION FROM HENRY VIII TO OPTOMETRY

Out of the wisdom of the body comes the resolution of most of our problems. When the regulators of our internal environment misbehave, our powers of compensation are usually applied so effectively that we are unaware of how our neurochemical and endocrine apparatus has preserved us. When systems get sufficiently out of phase, symptoms often but not always result and explanations are sought. Sometimes the causes of such complaints seem almost spiritual and a few well-chosen, carefully delivered words suffice. Before the modern therapeutic era, words were sometimes more effective than deeds, especially when bleeding, cupping or mustard plasters did more to than for the patient. The wise physician learned then as now that the body like the pendulum tries to return to its previous position and that nature requires cooperation rather than subversion.

In our technological era, such therapeutic detachment is difficult to maintain because science has offered us so many devices and so many drugs. Not only this but medicine has reentered the marketplace from which a profession had begun to differentiate even in the time of Henry VIII when Thomas Linacre, the first English medical humanist and a friend of Erasmus, and five other physicians established the College of Physicians of London to improve the practice of medicine and to assure that the unqualified could not practice that profession legally.

From such humble, yet regal, beginnings, for Linacre was Henry's physician, have evolved our modern systems of control and regulation of medical practice. Yet these systems are currently under great stress in the marketplace because health care has become, according to some, a right and should therefore be provided as a commodity to all. Now health care is not the same thing as medical care, the latter having been sanctioned by time to imply a disturbance of psyche or soma requiring a relationship between physician and patient. And our regulatory machinery is designed to protect both parties in this relationship as well as society as a whole. In that society are those who would presume on inadequate grounds that they are qualified without proper training, testing and licensing to practice "physic." So the physician's position becomes anomalous for how can the doctor

control smoking, overeating, handguns or alcohol by thought, word or deed. He can only suggest and encourage.

Yet this is not to say that the marketplace should not exert pressures on the medical profession because medicine can never be separate from society. Galenic medicine, calomel, bleeding by leeches or phlebotomy fell because of such pressures. But the impulse to reform is not limited to the laity, to the whole or to government. In fact in the United States it has much more often come from within the profession itself or the American Medical Association would not exist, hospitals would not be accredited and medical schools would not be regularly subjected to almost withering scrutiny by members of our own organizations.

Battles are essential to preserve organizations and to prevent the deification of dogma. At present our profession is beset on many fronts, even from within. Up to a point this is to the good because it does prevent that assertion of dogma so comforting to him who is afraid to ask, "How do I know I know?" Many of us, for example, may be restive because the AMA's position about chiropractic appears craven in that it seems to accept that movement on an equal footing. The Federal Trade Commission hints that attempts to ensure quality and to maintain high standards are monopolistic practices^{1,2} and HEW offers many imperial pronouncements. Even optometry is in full cry, its practitioners having been granted permission by legislative amendment in 1977 of the Optometry Practice Act to use diagnostic drugs and to treat eye disease "in collaboration with" a physician. But amendments cannot make accurate diagnosis certain nor can FTC or HEW fiat assure high standards of medical practice or dictate the social practices of a diverse citizenry.

The body politic is not unlike the human body. When an artery is partially occluded, the tissues downstream suffer. When improper and ill-chosen legislation diverts vital humanistic and scientific energies, medical and health care become less effective and more costly. State and federal bodies are designed to respond to injury but like their human counterparts they sometimes seem rather laggard and inefficient. But all systems offering patient care are not equal. If legislation has decreed a retreat from the differentiation to better things set in motion by Linacre, society can expect little benefit, for the body never ceases its processes of repair but our representatives in Congress and in Raleigh must heed the marketplace as well

as organizations. Thus it remains for us in the line of Linacre to protect the public the best ways that we know and to ever press for right social remedies.

J.H.F.

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AUTOPSIES IN NORTH CAROLINA

In its August 17, 1978, issue, the *New England Journal of Medicine* ran an article by Dr. W. C. Roberts of the National Institutes of Health commenting on the decline of the autopsy in the United States, with suggestions for its revival. Thus, along with our declining dollar, unfavorable trade balance, plunging stock market, low voter turnout and a variety of calamities that would make Aeschylus grimace, we are asked to worry about the autopsy rate. *Time* magazine joined the lamentations in its September 18 issue, so we may expect some general conversation about the problem.

There are those who trace the autopsy decline to a 1971 decision by the Joint Commission on the Accreditation of Hospitals to eliminate its previous requirement of a 20% autopsy rate. One hates to think that a bureaucratic requirement would triumph over medical virtue, but perhaps it did. One thing the deci-

sion surely did was to evoke almost 60 articles of various types — many from nonpathologists — decrying the idea and suggesting why it should not be done. Dr. Roberts joined this group with his paper in August.

The readers of this Journal should be interested in the general issue, but rightly expect the Journal to address the North Carolina situation. The hospitals of the three medical schools in existence since 1971 have all maintained an autopsy rate of between 50% and 60% throughout the period, much as it had been in prior years and much higher than the national average. All report continued interest by their clinical staffs in the information provided by the procedure and all express optimism about the continuance of their good experience in the future. No one has suggested a hypothesis to test why we differ from our colleagues elsewhere around the country. Many of us always thought we were different without any need for rigorous proof. For the hospitals not directly connected with the medical schools over these years there is little information available. My own conversations suggest that there has been a decline in the number of autopsies performed. Efforts at cost containment might well be responsible, for autopsies are expensive and are almost always financed from general revenues of hospitals.

Thus, for those of our readers who might be apprehensive about the next generation of medical stu-



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Greenville, N.C.
Columbia, S.C.

"sleeping on a Sealy is like sleeping on a cloud"

dents, surmising that they might emerge without ever having had hand-to-tissue contact with disease as seen at autopsy, rest assured that the experience is still available at Duke, UNC and Bowman Gray. I'm sure

our colleagues at East Carolina will acquit themselves as they develop their service. After all, they do have the good fortune to be in our state.

R.W.P.

Bulletin Board

NEW MEMBERS of the State Society

Acker, James Herbert (STUDENT) 206 N. Oak Street, Apt. 5, Greenville 27834
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 Anderson, Landon Butler, MD, (ORS) 1222 Medical Center Dr., Wilmington 28401
 Andrews, Paul Stephen (STUDENT) 201 Senter St., Carrboro 27510
 Angle, Marcia A. (STUDENT) 919 Green St., Durham 27701
 Arnold, Robert Edgar, MD, (FP) 4101 Central Ave., Charlotte 28205
 Barden, Graham Arthur III (STUDENT) Box 2720, Duke Med. Ctr., Durham 27710
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 Bell, Edwin Lillington (STUDENT) 1103 Urban Ave., Durham 27701
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 Brodie, Bruce Rogers, MD, (CD) 200 E. Northwood St., Greensboro 27401
 Brown, William Edward (STUDENT) 401 Highland Avenue, Greenville 27834
 Carson, Culley Clyde, III, MD, (U) Duke Med. Ctr. Div. Uro., Durham 27710
 Chang, Shyue-Yi, MD, (OBG) 824 S. Aspen St., Lincolnton 28092
 Collinson, Frank, MD, (R) 508 Valley Dale St., Wilson 27893
 Cunningham, Scott Lance (STUDENT) 1213 Carolina Avenue, Durham 27705
 Dennis, Ronald Greene, MD, (OTO) 1001 Court Dr., Charlotte 28211
 D'Ercole, Augustine Joseph, MD, (PD) UNC, Dept. Ped. 229-H, Burnett-Womack Clinical Science Bldg., Chapel Hill 27514
 Dover, Norris Lee (STUDENT) 1801 E. First St. Apt. #4, Greenville 27834
 Drossman, Douglas Arnold, MD, UNC, 324 Clinical Sci. Bldg., Chapel Hill 27514
 Dunn, Ernest Clinton, Jr. (STUDENT) #49 Tarheel Mobile Ct., Chapel Hill 27514
 Earp, Henry S. III, MD, UNC Dept. of Medicine, Chapel Hill 27514
 Eisenberg, Robert Alan, MD, (IM) UNC Dept. of Medicine, Chapel Hill 27514
 Faletta, John Matthew, MD, (PD) Box 2916, Duke Med. Ctr., Durham 27710
 Fletcher, Robert H., MD, (IM) UNC Dept. of Medicine, Chapel Hill 27514
 Fletcher, Suzanne W., MD, (IM) Dept. of Medicine, UNC, Chapel Hill 27514
 Galinko, Neal Jeffrey (STUDENT) 191-27 Glendare Dr., Winston-Salem 27104
 Glatz, Frank Robert, Jr., MD, (OTO) P.O. Box 38, Danbury 27010

Gottsegen, Daniel Leo, MD, (OBG) 200 E. Northwood St., Ste. 216, Greensboro 27401
 Grant, John Palmer, MD, (GS) Box 3105, Duke Medical Ctr., Durham 27710
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 Hendricks, William Monroe, MD, (D) 208 Foust St., Asheboro 27203
 Herbert, William Norman Parke, MD, (OBG) UNC Dept. of OBG, Chapel Hill 27514
 Hosea, Robert Haywood, MD, (OTO) 2001 Stanton Rd., Kinston, 28501
 Hutchins, Robert Harold, MD, (Intern-Resident) 3954 Sweetbriar Rd., Wilmington 28403
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 Jackson, Murray Threadgill, Jr., MD, (R) P.O. Box 1043, Rt. 1, Marion Forest, Sylva 28779
 Jones, Jeffrey David, MD, (IM) 1205 Greenbriar Ct., Wilson 27893
 Jones, Robert Spurgeon, Jr. (STUDENT) Shady Knoll Mobile Estates #92, Greenville 27834
 Karb, Kenneth Samuel, MD, (IM) Rt. 1, Box 454, Julian 27283
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 Rob, Charles Granville, MD, (GS) 230 Country Club Dr., Greenville 27834
 Robinson, Roscoe Ross, MD, (IM) 3929 Nottaway Rd., Durham 27707
 Rowe, Charles Thomas, MD (DR) St. 103, Doctors Bldg., P.O. Box 2959, Asheville 28803

Rudnick, Seth Allen, MD (IM) UNC Dept. of Medicine, Chapel Hill 27514
 Shell, Jerry Keith, MD, (OPH) 1408 Trafollar, High Point 27260
 Smith, Eric P. (STUDENT) 2711 Circle Dr., Durham 27705
 Smith, Richard Lloyd, (GE) 520 Biltmore Avenue, Asheville 28801
 Soltys, John Joseph, MD, (P) UNC Dept. of Psy., Med. Wing D, 208-H, Chapel Hill 27514
 Sterchi, John Michael, MD, (GS) Bowman Gray, Winston-Salem 27103
 Strausbauch, Paul Henry, MD, (PTH) 1717 Morningside Place, Greenville 27834
 Streck, Christian John, MD (GS) 4111 Dogwood Dr., Greensboro 27410
 Sutton, Richard Loring, MD, (EM) 230 Ridgewood Avenue, Charlotte 28211
 Treiman, Alan Richard (STUDENT) 2015 Yearby Ave, Apt. 1, Durham 27705
 Vest, Gayle Southworth, MD, (OBG) Conner Dr. Prof. Bldg., Chapel Hill 27514
 Weir, Donald Douglas, MD, (PMR) P.O. Box 6028, Greenville 27834
 Weiss, James R., MD, (P) Box 3903, Duke Medical Ctr., Durham 27710
 Willits, Bruce Kirby, MD, (OBG) 507 Covington St., Laurinburg 28358
 Woodall, Hal Breen, MD, (IM) Rt. #2, Box 7M, Kenly 27542
 Zazzi, Adrienne (STUDENT) 371-F Glendare Dr., Winston-Salem 27104

WHAT? WHEN? WHERE? In Continuing Education

Please note: 1. The Continuing Medical Education Programs at Bowman Gray, Duke, East Carolina and UNC Schools of Medicine, Dorothea Dix, Wayne County Hospital and Burroughs

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Wellcome Company are accredited by the American Medical Association. Therefore CME programs sponsored or co-sponsored by these schools automatically qualify for AMA Category I credit toward the AMA's Physician Recognition Award, and for North Carolina Medical Society Category A credit. Where AAFP credit has been requested or obtained, this also is indicated.

2. The "place" and "sponsor" are indicated for a program only when these differ from the place and source to write "for information."

PROGRAMS IN NORTH CAROLINA

June 7-8

Comprehensive Management of the Spinal Injured Patient
 Credit: 13 hours

For Information: Mrs. Elizabeth Trought, Box 3883, Duke University Medical Center, Durham 27710

June 8-9

Interactional Skills in Medical Practice

For Information: William Wood, M.D., Director of Continuing Education, UNC School of Medicine, 319 MacNider Building 202-H, Chapel Hill 27514

June 9

Update in Ophthalmology

Place: 105 Berryhill Hall

Fee: \$30

Credit: 3 hours

For Information: William Wood, M.D., Director of Continuing Education, UNC School of Medicine, 319 MacNider Building 202-H, Chapel Hill 27514

June 14-17

Seaboard Medical Association

Place: Holiday Inn, Nags Head

For Information: Mrs. Annette Boutwell, P.O. Box 10387, Raleigh 27605

June 16-17

Practical Dermatology

Place: Emerald Isle Motor Inn

Fee: \$50

Credit: 7 hours

For Information: W. M. Sams, M.D., N.C. Memorial Hospital, Chapel Hill 27514

June 20-21

Surgery Symposia

Place: Appalachian State University

For Information: Office of Continuing Medical Education, East Tennessee State University, Johnson City, Tennessee 37601

June 21-23

Mountain Top Medical Assembly

Place: Waynesville Country Club

For Information: Clinton L. Border, Jr., M.D., 204 Depot Street, Waynesville 28786

June 29-July 1

9th Annual Sports Medicine Symposium

Place: Blockade Runner Motor Hotel, Wrightsville Beach

Sponsor: North Carolina Medical Society Committee on Medical Aspects of Sports

For Information: Mr. Gene Sauls, North Carolina Medical Society, P.O. Box 27167, Raleigh 27611

July 9-12

Annual Meeting Blue Ridge Institute

Place: Black Mountain

Sponsor: North Carolina Lung Association

Fee: \$25

For Information: Mr. C. Scott Venable, Executive Director, North Carolina Lung Association, P.O. Box 27985, Raleigh 27611

July 9-13

Duke University Medical Center Postgraduate Course — Morehead Symposium

Place: Atlantic Beach

Fee: \$175

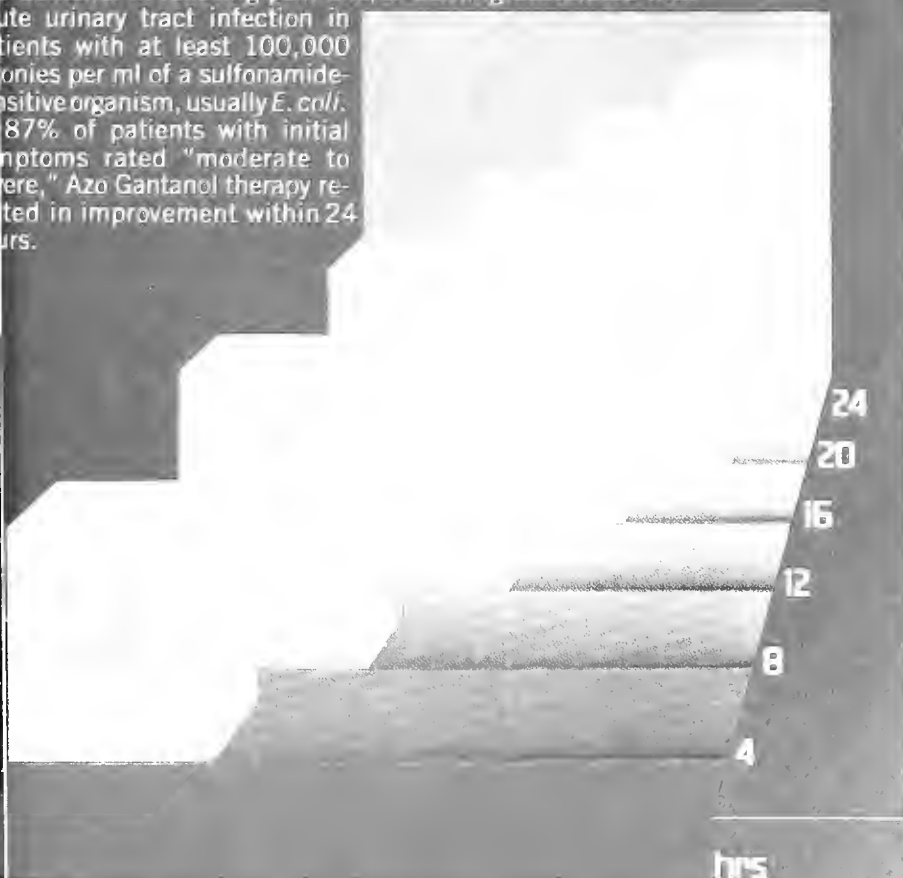
Credit: 30 hours

For Information: M. Henderson Rourke, M.D., Director of Continuing Education, Duke University Medical Center, Durham 27710

Important data on the pain of acute cystitis:

In 87% of patients studied (303 of 349), Azo Gantanol reduced pain and/or burning within 24 hours*

A controlled, multicenter study assessed the efficacy of Azo Gantanol in relieving pain and/or burning associated with acute urinary tract infection in patients with at least 100,000 colonies per ml of a sulfonamide-positive organism, usually *E. coli*. 87% of patients with initial symptoms rated "moderate to severe," Azo Gantanol therapy resulted in improvement within 24 hours.



Fast pain relief plus effective antibacterial action

Azo Gantanol®

Each tablet contains 0.5 Gm sulfamethoxazole and 100 mg phenazopyridine HCl.

for the pain
for the pathogens

Before prescribing, please consult complete product information, a summary of which follows:

Indications: In adults, urinary tract infections complicated by pain (primarily cystonephritis, pyelitis and cystitis) due to susceptible organisms (usually *E. coli*, *Klebsiella-Enterobacter*, *Staphylococcus aureus*, *Proteus mirabilis*, and, less frequently, *Proteus vulgaris*) in the absence of obstructive uropathy or foreign bodies. **Note:** Carefully coordinate in vitro sulfonamide sensitivity tests with bacteriologic and clinical response; add aminobenzoic acid to follow-up culture media. The increasing frequency of resistant organisms limits the usefulness of antibacterials including sulfonamides. Measure sulfonamide blood levels as variations may occur; 20 mg/100 ml should be maximum total level.

Contraindications: Children below age 12; sulfonamide hypersensitivity; pregnancy at term and during nursing period; because Azo Gantanol contains phenazopyridine hydrochloride it is contraindicated in glomerulonephritis, severe hepatitis, uremia, and cystonephritis of pregnancy with G.I. disturbances.

Warnings: Safety during pregnancy not established. Deaths from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias have been reported and early clinical signs (sore throat, fever, pallor, purpura or jaundice) may indicate serious blood disorders. Frequent CBC and urinalysis with microscopic examination are recommended during sulfonamide therapy.

Precautions: Use cautiously in patients with impaired renal or hepatic function, severe allergy, bronchial asthma; in glucose-6-phosphate dehydrogenase deficient individuals in whom dose-related hemolysis may occur. Maintain adequate fluid intake to prevent crystalluria and stone formation.

Adverse Reactions: Blood dyscrasias (agranulocytosis, aplastic anemia, thrombocytopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia); allergic reactions (erythema multiforme, skin eruptions, Stevens-Johnson syndrome, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis); G.I. reactions (nausea, emesis, abdominal pains, hepatitis, diarrhea, anorexia, pancreatitis and stomatitis); CNS reactions (headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo and insomnia); miscellaneous reactions (drug fever, chills, toxic nephrosis with oliguria and anuria, periarthritis nodosa and L. E. phenomenon). Due to certain chemical similarities with some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia. Cross-sensitivity with these agents may exist.

Dosage: Azo Gantanol is intended for the acute, painful phase of urinary tract infections. Usual adult dosage: 2 Gm (4 tabs) initially, then 1 Gm (2 tabs) R, B, for up to 3 days. If pain persists, causes other than infection should be sought. After relief of pain has been obtained, continued treatment with Gantanol (sulfamethoxazole) may be considered.

NOTE: Patients should be told that the orange-red dye (phenazopyridine HCl) will color the urine.

Supplied: Tablets, red, film-coated, each containing 0.5 Gm sulfamethoxazole and 100 mg phenazopyridine HCl. Bottles of 100 and 500.



Roche Laboratories
Division of Hoffmann-La Roche Inc.
Nutley, New Jersey 07110



A reminder

ZYLOPRIM[®]

(allopurinol)

100 and 300 mg scored Tablets

- inhibits uric acid formation
- helps prevent urate crystal depositions in synovia
- reduces risk of uric acid lithiasis

INDICATIONS AND USE: This is not an innocuous drug and strict attention should be given to the indications for its use. Pending further investigation, its use in other hyperuricemic states is not indicated at this time.

Zyloprim[®] (allopurinol) is intended for:

1. treatment of gout, either primary, or secondary to the hyperuricemia associated with blood dyscrasias and their therapy;
2. treatment of primary or secondary uric acid nephropathy, with or without accompanying symptoms of gout;
3. treatment of patients with recurrent uric acid stone formation;
4. prophylactic treatment to prevent tissue urate deposition, renal calculi, or uric acid nephropathy in patients with leukemias, lymphomas and malignancies who are receiving cancer chemotherapy with its resultant elevating effect on serum uric acid levels.

CONTRAINDICATIONS: Use in children with the exception of those with hyperuricemia secondary to malignancy. The drug should not be employed in nursing mothers.

Patients who have developed a severe reaction to Zyloprim should not be restarted on the drug.

WARNINGS: ZYLOPRIM SHOULD BE DISCONTINUED AT THE FIRST APPEARANCE OF SKIN RASH OR ANY SIGN OF ADVERSE REACTION. In some instances a skin rash may be followed by more severe hypersensitivity reactions such as exfoliative, urticarial and purpuric lesions as well as Stevens-Johnson syndrome (erythema multiforme) and very rarely a generalized vasculitis which may lead to irreversible hepatotoxicity and death.

A few cases of reversible clinical hepatotoxicity have been noted and in some patients asymptomatic rises in serum alkaline phosphatase or serum transaminase have been observed. Accordingly, periodic liver function tests should be performed during the early stages of therapy particularly in patients with pre-existing liver disease. Patients should be alerted to the need for due precautions when engaging in activities where alertness is mandatory.

Nevertheless, iron salts should not be given simultaneously with Zyloprim. This drug should not be administered to immediate relatives of patients with idiopathic hemochromatosis.

In patients receiving Purinethol[®] (mercaptopurine) or Imuran[®] (azathioprine), the concomitant administration of 300-600 mg of Zyloprim per day will require a reduction in dose to approximately one-third to one-fourth of the usual dose of mercaptopurine or azathioprine. Subsequent adjustment of doses of Purinethol or Imuran should be made on the basis of therapeutic response and any toxic effects.

Usage in Pregnancy and Women of Childbearing Age: Zyloprim[®] (allopurinol) should be used in pregnant women or women of childbearing age only if the potential benefits to the patient are weighed against the possible risk to the fetus.

PRECAUTIONS: Some investigators have reported an increase in acute attacks of gout during the early stages of allopurinol administration, even when normal or sub-normal serum uric acid levels have been attained.

It has been reported that allopurinol prolongs the half-life of the anticoagulant, dicumarol. This interaction should be kept in mind when allopurinol is given to patients already on anticoagulant therapy, and the coagulation time should be reassessed.

A fluid intake sufficient to yield a daily urinary output of at least 2 liters and the maintenance of a neutral or, preferably, slightly alkaline urine are desirable to (1) avoid the theoretic possibility of formation of xanthine calculi under the influence of Zyloprim therapy and (2) help prevent renal precipitation of urates in patients receiving concomitant uricosuric agents.

Patients with impaired renal function require less drug and should be carefully observed during the early stages of Zyloprim administration and the drug withdrawn if increased abnormalities in renal function appear.

In patients with severely impaired renal function, or decreased urate clearance, the half-life of oxipurinol in the plasma is greatly prolonged. Therefore, a dose of 100 mg per day or 300 mg twice a week, or perhaps less, may be sufficient to maintain adequate xanthine oxidase inhibition to reduce serum urate levels. Such patients should be treated with the lowest effective dose, in order to minimize side effects.

Mild reticulocytosis has appeared in some patients.

As with all new agents, periodic determination of liver and kidney function and complete blood counts should be performed especially during the first few months of therapy.

ADVERSE REACTIONS:

Dermatologic: Because in some instances skin rash has been followed by severe hypersensitivity reactions, it is recommended that therapy be discontinued at the first sign of rash or other adverse reaction (see WARNINGS). Skin rash, usually maculopapular, is the adverse reaction most commonly reported.

Exfoliative, urticarial and purpuric lesions, Stevens-Johnson syndrome (erythema multiforme) and toxic epidermal necrolysis have also been reported.

A few cases of alopecia with and without accompanying dermatitis have been reported.

In some patients with a rash, restarting Zyloprim (allopurinol) therapy at lower doses has been accomplished without untoward incident.

Gastrointestinal: Nausea, vomiting, diarrhea, and intermittent abdominal pain have been reported.

Vascular: There have been rare instances of a generalized hypersensitivity vasculitis or necrotizing angiitis which have led to irreversible hepatotoxicity and death.

Hematopoietic: Agranulocytosis, anemia, aplastic anemia, bone marrow depression, leukopenia, pancytopenia and thrombocytopenia have been reported in patients, most of whom received concomitant drugs with potential for causing these reactions. Zyloprim[®] (allopurinol) has been neither implicated nor excluded as a cause of these reactions.

Neurologic: There have been a few reports of peripheral neuritis occurring while patients were taking Zyloprim. Drowsiness has also been reported in a few patients.

Ophthalmic: There have been a few reports of cataracts found in patients receiving Zyloprim. It is not known if the cataracts predated the Zyloprim therapy. "Toxic" cataracts were reported in one patient who also received an anti-inflammatory agent; again, the time of onset is unknown. In a group of patients followed by Gutman and Yü for up to five years on Zyloprim therapy, no evidence of ophthalmologic effect attributable to Zyloprim was reported.

Drug Idiosyncrasy: Symptoms suggestive of drug idiosyncrasy have been reported in a few patients. This was characterized by fever, chills, leukopenia or leukocytosis, eosinophilia, arthralgias, skin rash, pruritus, nausea and vomiting.

OVERDOSAGE: Massive overdosing, or acute poisoning, by Zyloprim has not been reported.

HOW SUPPLIED: 100 mg (white) scored tablets, bottles of 100 and 1000; 300 mg (peach) scored tablets, bottles of 30, 100 and 500. Unit dose packs for each strength also available.

Complete information available from your local B. W. Co. Representative or from Professional Services Department PML.

U.S. Patent No. 3,624,205 (Use Patent)



Wellcome

Burroughs Wellcome Co.
Research Triangle Park
North Carolina 27709

COMPATIBILITY



Does it influence your choice of a peripheral/cerebral vasodilator*?

- Vasodilan—compatible with coexisting diseases
- Vasodilan—compatible with concomitant therapy
- Vasodilan—compatible with your total regimen for vascular insufficiency

***Indications:** Based on a review of this drug by the National Academy of Sciences-National Research Council and/or other information, the FDA has classified the indications as follows.

Possibly Effective:

1. For the relief of symptoms associated with cerebral vascular insufficiency
2. In peripheral vascular disease of arteriosclerosis obliterans, thromboangitis obliterans (Buerger's Disease) and Raynaud's disease.

Final classification of the less-than-effective indications requires further investigation.

Composition: Vasodilan tablets, isoxsuprine HCl, 10 mg. and 20 mg. Vasodilan injection, isoxsuprine HCl, 5 mg., per ml.

Dosage and Administration: Oral, 10 to 20 mg., three or four times daily. Intramuscular, 5 to 10 mg. (1 or 2 ml.) two or three times daily. Intramuscular administration may be used initially in severe or acute conditions.

Contraindications and Cautions: There are no known contraindications to oral use when administered in recommended doses. Should not be given immediately postpartum or in the presence of arterial bleeding.

Parenteral administration is not recommended in the presence of hypotension or tachycardia.

Intravenous administration should not be given because of increased likelihood of side effects.

Adverse Reactions: On rare occasions oral administration of the drug has been associated in time with the occurrence of hypotension, tachycardia, nausea, vomiting, dizziness, abdominal distress, and severe rash. If rash appears the drug should be discontinued.

Although available evidence suggests a temporal association of these reactions with isoxsuprine, a causal relationship can be neither confirmed nor refuted. Administration of single dose of 10 mg. intramuscularly may result in hypotension and tachycardia. These symptoms are more pronounced in higher doses. For these reasons single intramuscular doses exceeding 10 mg. are not recommended. Repeated administration of 5 to 10 mg. intramuscularly at suitable intervals may be employed.

Supplied: Tablets, 10 mg., bottles of 100, 1000, 5000 and Unit Dose, Tablets, 20 mg., bottles of 100, 500, 1000, 5000 and Unit Dose, Injection, 10 mg. per 2 ml. ampul, box of six 2 ml. ampuls.

U.S. Pat. No. 3,056,836

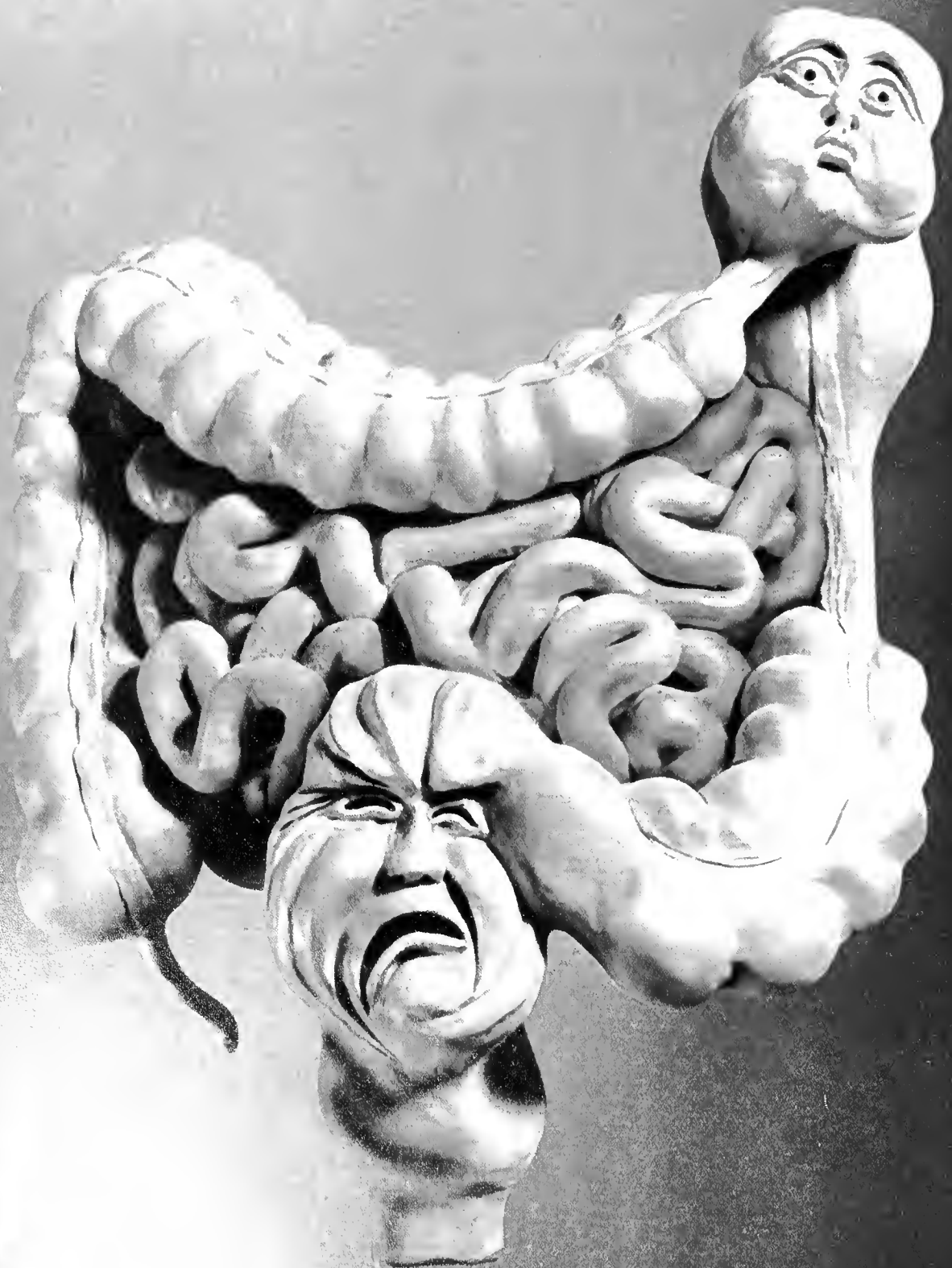
VASODILAN[®]

(ISOXSUPRINE HCl)
20-mg tablets

Mead Johnson PHARMACEUTICAL DIVISION

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When painful spasm
is the presenting
symptom...



...in the functional bowel/irritable bowel syndrome*

Bentyl[®]

(dicyclomine hydrochloride USP)

10 mg. capsules, 20 mg. tablets,
10 mg./5 ml. syrup, 10 mg./ml. injection

helps control abnormal motor activity
with minimal anticholinergic side effects[†]

Demonstrated smooth muscle relaxant activity.

In this double-blind study, twenty patients having G.I. series and exhibiting spasm were randomly selected to receive either 2 cc. of Bentyl or sodium chloride intramuscularly. Ten minutes after the injection another radiograph was taken . . .

. . . Bentyl produced definite relaxation in 8 of 10 patients. The sodium chloride produced relaxation in only 3 of 10. No side effects occurred in either group of patients.



Pylorospasm has almost totally blocked passage of barium meal.



Barium meal beginning to pass 10 minutes after intramuscular injection of 20 mg. Bentyl.

"The correlation of spasm relief and drug given was excellent."

*This drug has been classified "probably" effective in treating functional bowel/irritable bowel syndrome

†See Warnings, Precautions and Adverse Reactions.

See following page for prescribing information.

Reference:

King, J.C. and Starkman, N.M.: Evaluation of an antispasmodic. Double-blind evaluation to control gastrointestinal spasms occurring during radiographic examination. A preliminary report. Western Med. 5:356-358, 1964

Merrell

Bentyl[®]

(dicyclomine hydrochloride USP)

Capsules, Tablets, Syrup, Injection

AVAILABLE ONLY ON PRESCRIPTION

Brief Summary

INDICATIONS

Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FDA has classified the following indications as "probably" effective

For the treatment of functional bowel/irritable bowel syndrome (irritable colon, spastic colon, mucous colitis) and acute enterocolitis

THESE FUNCTIONAL DISORDERS ARE OFTEN RELIEVED BY VARYING COMBINATIONS OF SEDATIVE, REASSURANCE, PHYSICIAN INTEREST, AMELIORATION OF ENVIRONMENTAL FACTORS

For use in the treatment of infant colic (syrup)

Final classification of the less-than-effective indications requires further investigation

CONTRAINDICATIONS Obstructive uropathy (for example, bladder neck obstruction due to prostatic hypertrophy), obstructive disease of the gastrointestinal tract (as in achalasia, pyloroduodenal stenosis), paralytic ileus, intestinal atony of the elderly or debilitated patient, unstable cardiovascular status in acute hemorrhage, severe ulcerative colitis, toxic megacolon complicating ulcerative colitis, myasthenia gravis. **WARNINGS** In the presence of a high environmental temperature, heat prostration can occur with drug use (fever and heat stroke due to decreased sweating). Diarrhea may be an early symptom of incomplete intestinal obstruction, especially in patients with ileostomy or colostomy. In this instance treatment with this drug would be inappropriate and possibly harmful. Bentyl may produce drowsiness or blurred vision. In this event, the patient should be warned not to engage in activities requiring mental alertness such as operating a motor vehicle or other machinery or perform hazardous work while taking this drug. **PRECAUTIONS** Although studies have failed to demonstrate adverse effects of dicyclomine hydrochloride in glaucoma or in patients with prostatic hypertrophy, it should be prescribed with caution in patients known to have or suspected of having glaucoma or prostatic hypertrophy. Use with caution in patients with Autonomic neuropathy. Hepatic or renal disease. Ulcerative colitis. Large doses may suppress intestinal motility to the point of producing a paralytic ileus and the use of this drug may precipitate or aggravate the serious complication of toxic megacolon. Hypertension, coronary heart disease, congestive heart failure, cardiac arrhythmias, and hypertension. Hiatal hernia associated with reflux esophagitis since anticholinergic drugs may aggravate this condition.

Do not rely on the use of the drug in the presence of complication of biliary tract disease. Investigate any tachycardia before giving anticholinergic (atropine-like) drugs since they may increase the heart rate. With overdosage, a curare-like action may occur. **ADVERSE REACTIONS** Anticholinergics/antispasmodics produce certain effects which may be physiologic or toxic depending upon the individual patient's response. The physician must delineate these. Adverse reactions may include xerostomia, urinary hesitancy and retention, blurred vision and tachycardia, palpitations, mydriasis, cycloplegia, increased ocular tension, loss of taste, headache, nervousness, drowsiness, weakness, dizziness, insomnia, nausea, vomiting, impotence, suppression of lactation, constipation, bloated feeling, severe allergic reaction or drug idiosyncrasies including anaphylaxis, urticaria and other dermal manifestations, some degree of mental confusion and/or excitement, especially in elderly persons, and decreased sweating. With the injectable form there may be a temporary sensation of lightheadedness and occasionally local irritation. **DOSEAGE AND ADMINISTRATION** Dosage must be adjusted to individual patient's needs.

Usual Dosage Bentyl 10 mg capsule and syrup *Adults* 1 or 2 capsules or teaspoonfuls syrup three or four times daily. *Children* 1 capsule or teaspoonful syrup three or four times daily. *Infants* ½ teaspoonful syrup three or four times daily. (May be diluted with equal volume of water.) Bentyl 20 mg *Adults* 1 tablet three or four times daily. Bentyl Injection *Adults* 2 ml (20 mg) every four to six hours intramuscularly only. **NOT FOR INTRAVENOUS USE.** **MANAGEMENT OF OVERDOSE** The signs and symptoms of overdose are headache, nausea, vomiting, blurred vision, dilated pupils, hot, dry skin, dizziness, dryness of the mouth, difficulty in swallowing, CNS stimulation. Treatment should consist of gastric lavage, emetics, and activated charcoal. Barbiturates may be used either orally or intramuscularly for sedation but they should not be used if Bentyl with Phenobarbital has been ingested. If indicated, parenteral cholinergic agents such as Urecholine[®] (bethanechol chloride USP) should be used.

Product information as of October, 1978

Injectable dosage forms manufactured by CONNAUGHT LABORATORIES, INC., Swiftwater, Pennsylvania 18370 or TAYLOR PHARMACAL COMPANY, Decatur, Illinois 62525 for MERRELL-NATIONAL LABORATORIES, Division of Richardson-Merrell Inc., Cincinnati, Ohio 45215, U.S.A.

Merrell

MERRELL NATIONAL LABORATORIES
Division of Richardson-Merrell Inc.
Cincinnati, Ohio 45215 U.S.A.

July 12-14

First Annual Mountain Workshop

Place: Asheville

Fee: \$100

Credit: 12 hours

For Information: Emery C. Miller, M.D., Associate Dean for Continuing Education, Bowman Gray School of Medicine, Winston-Salem 27103

July 14-15

Practical Dermatology

Place: Continuing Education Center, Boone

Fee: \$50

Credit: 7 hours

For Information: W. M. Sams, M.D., N.C. Memorial Hospital, Chapel Hill 27514

July 18

Prospective Medicine

Place: Lee County Hospital, Sanford

Fee: \$6

Credit: 3.5 hours; AMA Category 1

For Information: R. S. Cline, M.D., Lee County Hospital, 108 Hillcrest Drive, Sanford 27330

July 22-27

Southern Obstetric and Gynecologic Seminar

Place: Grove Park Inn, Asheville

For Information: W. Otis Duck, M.D., Drawer F, Mars Hill 28754

July 22-27

Diagnosis and Management of Alcoholism and Alcohol Related Disorders

Place: Duke University Medical Center

Fee: \$290

Credit: 36½ hours

For Information: M. Henderson Rourke, M.D., Director of Continuing Education, Duke University Medical Center, Durham 27710

July 30-August 4

Diagnostic Radiology Including Ultrasound, CT Scanning and Nuclear Medicine

Place: Atlantic Beach

Fee: \$250

Credit: 30 hours

For Information: Robert McLelland, M.D., Radiology-Box 3808, Duke University School of Medicine, Durham 27710

August 10-11

Electron Microscopy in Diagnostic Pathology

Place: Babcock Auditorium

Fee: \$90

Credit: 7 hours

For Information: Emery C. Miller, M.D., Associate Dean for Continuing Education, Bowman Gray School of Medicine, Winston-Salem 27103

September 6-9

Annual Meeting North Carolina Academy of Pediatrics and North Carolina Pediatric Society

Place: Pinehurst Hotel and Country Club

For Information: David Williams, M.D., Chapter Chairman, P.O. Box 27167, Raleigh 27611

September 13-16

1979 Invitational Assembly for Advanced Urology: Surgical Techniques — "How I Do It"

Place: Pinehurst Hotel and Country Club

Sponsor: Division of Urology, Duke University Medical Center

Fee: \$150

Credit: 16 hours

For Information: Linda Mace, Assembly Secretary, Box 3707, Duke Hospital, Durham 27710

September 19

What's New and Old in Gastrointestinal Disease

Place: Lee County Hospital, Sanford

Fee: \$6

Credit: 3.5 hours; AMA Category 1

For Information: R. S. Cline, M.D., Lee County Hospital, 108 Hillcrest Drive, Sanford 27330

September 19

Hypertension: An Update on Management and Therapy

Place: Pitt County Memorial Hospital, Greenville

Fee: \$15

Credit: 3 hours

For Information: F. M. Simmons Patterson, M.D., Assistant Dean for Continuing Education, ECU School of Medicine, Greenville 27834

September 20

Symposium on Sarcoidosis — The Great Imitator

Place: Carolina Inn, Chapel Hill

Credit: 8 hours

For Information: William Wood, M.D., Director of Continuing Education, UNC School of Medicine, 319 MacNider Building 202-H, Chapel Hill 27514

September 20-21

Real Time Course for Obstetricians

Credit: 10 hours

For Information: James F. Martin, M.D., Director, Center for Medical Ultrasound, Bowman Gray School of Medicine, Winston-Salem 27103

September 21-22

9th Annual Seminar in Medicine

Credit: 12 hours

For Information: Emery C. Miller, M.D., Associate Dean for Continuing Education, Bowman Gray School of Medicine, Winston-Salem 27103

September 26-30

North Carolina Medical Society Annual Committee Conclave

Place: Mid-Pines Club, Southern Pines

Regular meetings will be scheduled for the chairman and members of almost all regular committees of the Medical Society; committee members should plan to be present.

For Information: William N. Hilliard, Executive Director, North Carolina Medical Society, P.O. Box 27167, Raleigh 27611

September 27-28

2nd Trimester Abortion — Perspectives After a Decade of Experience

Place: Carolina Inn, Chapel Hill

Fee: \$200

Credit: 17 hours

For Information: William Wood, M.D., Director of Continuing Education, UNC School of Medicine, 319 MacNider Building 202-H, Chapel Hill 27514

September 29

Update in Ophthalmology

Place: Berryhill Hall

Fee: \$30

Credit: 3 hours

For Information: William Wood, M.D., Director of Continuing Education, UNC School of Medicine, 319 MacNider Building 202-H, Chapel Hill 27514

October 10

Diseases of the Liver

Place: Pitt County Memorial Hospital, Greenville

Fee: \$15

Credit: 4 hours

For Information: F. M. Simmons Patterson, M.D., Assistant Dean for Continuing Education, ECU School of Medicine, Greenville 27834

October 11-13

Family Medicine Workshop

For Information: Emery C. Miller, M.D., Associate Dean for Continuing Education, Bowman Gray School of Medicine, Winston-Salem 27103

November 14

Practical Pediatrics

Place: Pitt County Memorial Hospital, Greenville

Fee: \$15

Credit: 3 hours

For Information: F. M. Simmons Patterson, M.D., Assistant Dean for Continuing Education, ECU School of Medicine, Greenville 27834

November 29-30

Real Time Course for Obstetricians

Credit: 10 hours

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For Information: James F. Martin, M.D., Director, Center for Medical Ultrasound, Bowman Gray School of Medicine, Winston-Salem 27103

December 12

Obstetrical Controversies

Place: Pitt County Memorial Hospital, Greenville

Fee: \$15

Credit: 3 hours

For Information: F. M. Simmons Patterson, M.D., Assistant Dean for Continuing Education, ECU School of Medicine, Greenville 27834

ITEMS OF SPECIAL INTEREST

October 6-9

1979 Annual Meeting Southern Psychiatric Association

Place: Hilton Palacio de Rio, San Antonio, Texas

For Information: Southern Psychiatric Association, P.O. Box 10387, Raleigh 27605

October 15-December 7

Retraining Program for Clinically Inactive Physicians

Place: The Medical College of Pennsylvania

Fee: \$1,950

For Information: Retraining Program for Inactive Physicians, Office of Medical Education, The Medical College of Pennsylvania, 3300 Henry Avenue, Philadelphia Pennsylvania 19129

October 22-26

Radiology Postgraduate Course

Place: Southampton Princess Hotel, Bermuda

Sponsor: Department of Radiology, Duke University Medical Center

Fee: \$275

Credit: 30 hours

For Information: Robert McLelland, M.D., Radiology-Box 3808, Duke University Medical Center, Durham 27710

November 4-7

American Physicians Art Association

Place: Las Vegas, Nevada

For Information: Milton S. Good, M.D., 610 Highlawn Avenue, Elizabethtown, Pa. 17022

PROGRAMS IN CONTIGUOUS STATES

June 8-10

EKG Interpretation and Arrhythmia Management

Place: Hyatt Regency, Atlanta

Fee: \$202

Credit: 15 hours

For Information: International Medical Education Corporation, 64 Inverness Drive, East Englewood, Colorado 80112

June 22-26

Dermatology for the Non-Dermatologist

Place: Kiawah Island, South Carolina

Fee: \$275

Credit: 16 hours

For Information: Gerald Lazarus, M.D., Box 2987, Duke University Medical Center, Durham 27710

June 29-30

Medical Horizons: Hypertension and Cardiovascular Disease

Place: Myrtle Beach, South Carolina

Fee: \$20

Credit: 10 hours

For Information: Emery C. Miller, M.D., Associate Dean for Continuing Education, Bowman Gray School of Medicine, Winston-Salem 27103

July 25-29

Contemporary Clinical Neurology

Place: Hilton Head Island, South Carolina

Sponsor: Department of Neurology, Vanderbilt University School of Medicine



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Credit: 16 hours
For Information: Vanderbilt Continuing Education, 305 Medical Arts Building, Nashville, Tennessee 37212

July 26-29

3rd Annual Neurology Postgraduate Course — Review of New Developments in Neurosciences
Place: Sheraton Beach Inn, Virginia Beach
Sponsor: Medical College of Virginia
Fee: \$200
Credit: 16½ hours
For Information: Ms. Glenda Snow, Continuing Medical Education, Medical College of Virginia, Box 91 MCV Station, Richmond, Virginia 23298

July 30-August 3

Seventh Annual Beach Workshop
Place: Myrtle Beach, South Carolina
Fee: \$150
Credit: 20 hours
For Information: Emery C. Miller, M.D., Associate Dean for Continuing Education, Bowman Gray School of Medicine, Winston-Salem 27103

August 24-26

Cardiac Ischemia and Arrhythmias — Current Concepts for Diagnosis and Treatment
Place: Hilton Head, South Carolina
Fee: \$215
Credit: 13 hours
For Information: International Medical Education Corporation, 64 Inverness Drive East, Englewood, Colorado 80112

December 5-9

4th Southeastern Conference on Alcohol and Drug Abuse
Place: Downtown Marriott Hotel, Atlanta
Sponsors: Peachford Hospital and American Medical Society on Alcoholism
Credit: 27 hours
For Information: Conway Hunter, Jr., M.D., Medical Director, Addictive Disease Unit, Peachford Hospital, 2151 Peachford Road, Atlanta, Georgia 30338

The items listed in the above column are for the six months immediately following the month of publication. Requests for listing should be received by "WHAT? WHEN? WHERE?", P.O. Box 27167, Raleigh 27611, by the 10th of the month prior to the month in which they are to appear. A "Request for Listing" form is available on request.

AUXILIARY TO THE NORTH CAROLINA MEDICAL SOCIETY

During the past year, several programs of the medical auxiliary have focused on the challenges of adolescence. It is a stormy and difficult time. Teens must cope with tremendous physical changes, accompanied by emotional inconsistency. They are striking out for independence, yet want security.

Of major concern is the rise in teen pregnancy. A recent report stated that 10% of all adolescent girls will become pregnant this year — no other medical condition except acne affects more teenagers! In North Carolina in 1977, there were 18,209 births to teen mothers; 8,781 teenagers terminated their pregnancies. The pregnant adolescent is responsible for another life before finishing her own developmental tasks. She is frequently caught in a cycle of failure in which she drops out of school and repeats the pregnancy while still in her teens. In 1977, four 19-year-

olds in this state had their sixth child, 13 had their fifth, 87 had their fourth, 452 had their third and 1,696 had their second.

Girls 15 and under are considered "at risk" during pregnancy and need the most prenatal care, yet they frequently get the least. It would be far less expensive to provide good care for the pregnant adolescent than to take care of her premature or low birth weight child.

The teenager who is encouraged to stay in school throughout her pregnancy is more likely to complete her schooling and become self-supporting. (Last year 26% of all Aid for Dependent Children funds went to teen mothers.)

Prevention of teen pregnancy should be our #1 goal. Parents are the primary sex educators, of course. Yet even those parents who communicate with their children frequently cannot discuss human sexuality. In a recent talk, Sol Gordon urged all of us to be askable parents. He went on to say that silence and evasiveness are just as powerful teachers as the facts. Physicians also need to be askable and to be able to

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ask questions which will help the adolescent discuss concerns about sexuality.

Finally, we must see that the auxiliary's pilot program for health education beginning in kindergarten is expanded to every school. Children who have an understanding and respect for their bodies and who have learned values from parents, church and school will be able to make mature and responsible decisions during the teen years.

MRS. CHARLENE MILLER, Winston-Salem, N.C.

News Notes from the

UNIVERSITY OF NORTH CAROLINA- CHAPEL HILL SCHOOL OF MEDICINE AND NORTH CAROLINA MEMORIAL HOSPITAL

A neurologist in the School of Medicine has received a \$189,407 federal grant to study the action of certain environmental pollutants on the brain.

The three-year award from the National Institute of Environmental Health Sciences will enable Dr. Lorcan A. O'Tuama to continue his research into how such toxic metals as lead, cadmium and mercury damage the developing nervous system by first affecting key parts of the brain.

O'Tuama, an associate professor and chief of the section of pediatric neurology, is an investigator in the UNC-CH Biological Sciences Research Center. He also holds appointments in the departments of pediatrics and medicine. Dr. C. S. Kim, a research instructor in the neurology department, is co-investigator for the project.

* * *

Dr. Benson R. Wilcox and Dr. Gordon F. Murray, cardiothoracic surgery, attended the annual meeting of the Society for Thoracic Surgery in Phoenix. Murray presented a film, "Thoracic Aneurysmectomy Utilizing Direct Left Ventriculoiliac Shunt (TDMAC-Heparin) Bypass," and gave critiques of "Aortic Valve Replacement Associated with Aneurysms of the Ascending Aorta" and "Esophagogastrectomy for Mid-Third Esophageal Carcinoma." Wilcox critiqued a paper, "Clinical

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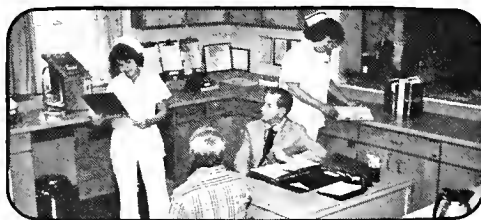


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Experience with the Lillehei-Kaster Prosthesis," and attended a meeting of the Thoracic Surgery Directors Association, of which he is secretary-treasurer.

* * *

Dr. John A. Ewing, director of the Center for Alcohol Studies, was presented the N.C. Distinguished Citizens Award for his leadership in medical research. The award, which recognizes exceptional service to North Carolina, was presented by Gov. James B. Hunt during a symposium in Raleigh on research to prevent alcoholism.

* * *

The School of Medicine presented one of its highest honors to Dr. Ernest Craige during its centennial celebration.

Craige, Henry A. Foscue Distinguished Professor of Cardiology, received the Distinguished Faculty Award during the annual alumni banquet, which this year was held in conjunction with the school's 100th birthday.

Craige received his B.A. degree from UNC-CH and his M.D. degree from Harvard University. He joined the medical school staff in 1952. The author of more than 70 publications dealing with various aspects of cardiology, he is an internationally known pioneer in echophonocardiography, a diagnostic procedure that enables physicians to determine more accurately the origins of heart sounds.

The Distinguished Faculty Award was established

in 1978 by the Medical Alumni Association to recognize fulltime faculty members for dedication to the medical profession, excellence in teaching, leadership in the School of Medicine and meritorious service to alumni.

* * *

Two School of Medicine scientists have received March of Dimes grants totaling \$31,000 to investigate causes of congenital disorders of the nervous system.

Dr. David L. McIlwain, associate professor of physiology, and Dr. Aldo Rustioni, associate professor of anatomy and physiology, will conduct separate studies of how birth injuries and inherited defects affect nerves to cause paralysis and look for clues to how the generally poor self-healing ability of nerves might be stimulated to correct these birth defects.

McIlwain will analyze proteins from spinal nerve cells of patients with inherited defects of motor nerves, which control muscle action.

Rustioni will investigate the consequences for spinal cord and brain nerves when nerves in the limbs or elsewhere in the body are damaged by birth trauma or other injuries.

* * *

John Huang has been made supervisor of the Cancer Center Tissue Culture Facility. Huang has been supervisor of the N.C. Memorial Hospital virology laboratory for the past several years and has had

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Wilmington (919) 763-9727



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long experience with tissue culture. He holds a masters degree from the Department of Bacteriology and Immunology at UNC-CH.

* * *

Dr. Joseph S. Pagano, professor of medicine and bacteriology and immunology and director of the Cancer Research Center, appeared at a site visit for the Cancer Center at St. Louis University. He presented "Epstein-Barr Virus: Pathobiologic and Molecular Clues" at Emory University School of Medicine Cancer Center.

Pagano also participated in a workshop on an experimental herpes virus vaccine and presented "Epstein-Barr Virus, Burkitt's Lymphoma and Nasopharyngeal Cancer" during a session on "Viruses Associated with Human Cancer" in Bethesda, Md. The workshop was sponsored by the National Cancer Institute and the National Institute of Allergy and Infectious Diseases.

* * *

Rebecca J. York, X-ray technician in diagnostic radiology at N.C. Memorial Hospital, won the John B. Cahoon Award for her paper, "Retrieval of Retained Common Bile Duct Stones." The award was presented at the Southeastern Conference by the Atlanta Society of Radiology Technologists in Georgia. York represented North Carolina at the conference and competed with representatives of five other states for the award.

* * *

Scientists have long looked on the macrophage as the body's trash collector. But that's a misconception, say cancer researchers who are trying to expand the cell's image.

"Scientists are becoming increasingly interested in the macrophage because of the many functions it appears to have," says Stephen Russell of the Cancer Research Center. "Among its functions are the ability to secrete various kinds of biologically active compounds and regulate the growth or functions of other cell types." An especially exciting recent discovery is that the macrophage, given the appropriate conditions, can kill cells that have become cancerous, Russell says.

* * *

Dr. Thomas Bouldin, a pathologist at the School of Medicine, has received a \$90,000 Young Environmental Scientist Award from the National Institute of Environmental Health Sciences.

The award, which aims to encourage young researchers' work in environmental health, will fund Bouldin's study of the effects of different toxins on the blood-nerve barrier of the peripheral nervous system.

* * *

Dr. Michael Pool, a third-year resident in the De-

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Indications. For the treatment of ascariasis (roundworm infection) and enterobiasis (pinworm infection).

Warnings. *Usage in Pregnancy:* Reproduction studies have been performed in animals and there was no evidence of propensity for harm to the fetus. The relevance to the human is not known.

There is no experience in pregnant women who have received this drug.

The drug has not been extensively studied in children under two years; therefore, in the treatment of children under the age of two years, the relative benefit/risk should be considered.

Precautions: Minor transient elevations of SGOT have occurred in a small percentage of patients. Therefore, this drug should be used with caution in patients with preexisting liver dysfunction.

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Gastrointestinal and hepatic reactions: anorexia, nausea, vomiting, gastralgia, abdominal cramps, diarrhea and tenesmus, transient elevation of SGOT.

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May & June, 1979 Meetings

- May 2-3 **Connecticut State Medical Society**
Hartford Hilton Hotel
Hartford, Connecticut
- May 2-5 **Medical & Chirurgical Faculty of the State of Maryland**
Hunt Valley Inn
Hunt Valley, Md.
- May 3-5 **Oklahoma State Medical Association**
Williams Center
Tulsa, Oklahoma
- May 3-6 **Texas Medical Association**
Dallas, Texas
- May 3-6 **Kansas Medical Society**
Holiday Inn-Holidome
Hutchinson, Kansas
- May 3-6 **North Carolina Medical Society**
Pinehurst Hotel
Pinehurst, North Carolina
- May 4-6 **Michigan State Medical Society**
(House of Delegates)
Kalamazoo Center Inn
Kalamazoo, Michigan
- May 6-10 **Mississippi State Medical Assoc.**
Biloxi Hilton
Biloxi, Mississippi
- May 10-12 **Wisconsin State Medical Society**
Marc Plaza
Milwaukee, Wisconsin
- May 16th **Rhode Island Medical Society**
Biltmore Plaza Hotel
Providence, Rhode Island
- May 17-18 **Minnesota Medical Association**
St. Paul, Minnesota
- May 23-27 **Florida Medical Association**
The Diplomat Hotel
Hollywood, Florida
- June 6-8 **Alaska State Medical Association**
Shee Atika
Sitka, Alaska
- June 7-10 **South Dakota State Medical Assoc.**
Howard Johnson
Rapid City, South Dakota
- June 16-19 **Maine Medical Association**
Samoset Resorts
Rockport, Maine
- June 18-20 **Iowa Medical Society**
Tan-Tar-A Resort
Osage Beach, Missouri
- June 27 **Chicago Medical Society**
(Annual Business Meeting & Inauguration)
Starlight Inn
Schiller Park, Illinois

partment of Psychiatry, has been selected as the Sol W. Ginsburg Fellow for 1979-1980.

Pool, one of 21 fellows chosen from nominees from training institutions throughout the United States, is the third Ginsburg fellow in three years from the department.

The fellowship was established in 1957 by the Group for the Advancement of Psychiatry in honor of Sol W. Ginsburg, the group's first chairman and former president.

* * *

Dr. Harry T. Phillips, a professor in the School of Public Health and the School of Medicine, has been granted a Kenan leave of absence from Jan. 1, 1980, to June 30, 1980, to study how health care is provided to the elderly at the community level in the United Kingdom.

* * *

Dr. Bernard G. Greenberg, dean of the School of Public Health, was honored recently for his service and support for the school's Minority Student Caucus. Greenberg received a plaque during the third annual Minority Health Conference held Feb. 21-22 at the School of Public Health.

* * *

Dr. Robert C. Elston, professor of biostatistics and

genetics at the School of Public Health, has received a Macy Faculty Scholar Award for 1979-1980.

The award, established in 1972 by the Josiah Macy Jr. Foundation of New York, encourages outstanding faculty members of schools of medicine and public health in the United States and Canada to spend up to 12 months on research in a fresh environment.

Elston will write a book on the genetic analysis of family data while working at the Population Genetics Laboratory at the University of Hawaii in Honolulu.

News Notes from the—

DUKE UNIVERSITY MEDICAL CENTER

The Muscular Dystrophy Association (MDA) has awarded six grants totaling \$100,714 to scientists at the medical center.

The grants were made to Drs. J. William Freytag, research associate in biochemistry; Keith L. Hull, post-doctoral fellow in neurology; Allen Magid, post-doctoral fellow in anatomy; Frederick Schachat and Timothy L. Strickler, assistant professors of anatomy; and Allen D. Roses, associate professor of medicine.

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Dr. Redford B. Williams Jr. has been promoted to professor of psychiatry.

Williams joined the faculty as assistant professor of psychiatry and medicine in 1972 after completing two years as a clinical associate with the United States Public Health Service.

A North Carolina native, he earned his B.A. degree at Harvard College in 1963 and his M.D. at Yale University School of Medicine in 1967 where he also received his postgraduate training.

* * *

Dr. Shirley Osterhout, assistant professor of pediatrics and assistant dean for student affairs in the medical school, chaired the Women in Medicine Section of the Southeastern Regional American Association of Medical Colleges meeting in Little Rock, Ark., March 22-24.

Dr. Osterhout, who also is clinical director of the Poison Control Center, discussed poisonings as a recent guest on NBC's "Not for Women Only."

* * *

Dr. Dorothy E. Naumann, director of student health, presided at the Southern College Health Association meeting in Orlando, Fla., March 21-24.

This summer, she will serve as one of the circuit representatives of the southeastern district at the Missouri Synod Lutheran Church annual meeting. The meeting will be held in St. Louis, July 6-13.

* * *

Dr. J. Leonard Goldner, professor and chief of the Division of Orthopaedic Surgery, is the new president of the American Orthopaedic Foot Society.

Goldner is a former president of the Southern Medical Association, American Society for Surgery of the Hand and the North Carolina Orthopaedic Association.

In 1967 he received the Governor's Award as North Carolina's Physician of the Year.

* * *

A Duke radiologist who feels that medical educators spend too much time teaching individual diseases and

not enough time stressing the concepts that underlie them has written a new textbook that he hopes will improve the situation.

Dr. Richard H. Daffner, associate professor of radiology, and chief of radiology at the V.A. Medical Center, said his "Introduction to Clinical Radiology" was primarily written for medical students who are seeing patients for the first time.

Based on courses he taught at Duke and the University of Louisville, the book places major emphasis on "what the students felt they needed to know," Daffner said.

The C. V. Mosby Co. of St. Louis has just published the 410-page volume. It has been issued in paperback, the author said, to hold down the cost of each text and so that production funds could be applied toward providing the best possible reproductions of the 614 illustrations.

* * *

Dr. Daniel B. Menzel, professor of pharmacology at Duke, has been appointed to the Science Advisory Board of the Environmental Protection Agency.

The Science Advisory Board, a group of nationally prominent scientists and engineers, advises the federal agency on the scientific, technical, health and economic aspects of environmental problems.

Menzel, 44, will serve an indefinite term on the subcommittee on mobile sources which is concerned with air pollution generated by automobiles, aircraft and other forms of transportation.

Menzel, who is also associate professor of experimental medicine and director of the Laboratory of Environmental Pharmacology and Toxicology at Duke, joined the medical center faculty in 1971.

His research is directed toward understanding the relationship between diet and air pollution. He has demonstrated in animal experiments that vitamin E helps to protect against smog-related illness.

* * *

Dr. Rebecca H. Buckley, professor of pediatrics and chief of the Division of Pediatric Allergy, Immunology and Pulmonary Diseases, is the new president of the American Academy of Allergy. She is the first woman elected to lead the 3,000-member professional organization.

Author or co-author of more than 75 scientific papers, Dr. Buckley has been studying why allergy victims produce too many allergic antibodies to substances like pollen that have little or no effect on other people.

She also has been investigating the congenital defects that rob certain children of natural immunity to disease and trying to devise better forms of treatment.

A native of Hamlet, N.C., the physician is a Duke graduate who received her medical degree in 1958 from the University of North Carolina School of Medicine. She completed her internship and residency in pediatrics at Duke and joined the faculty as an instructor in 1961.

She is currently on the editorial boards of the

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"Journal of Pediatrics" and "Current Topics in Immunology" and serves on a number of national committees.

Dr. Buckley also directs Duke's Asthma and Allergic Diseases Center, one of only 14 such centers sponsored by the National Institute of Allergy and Infectious Diseases in the United States.

* * *

"The Cultured Heart Cell: Problems and Prospects" was the title of a presentation given by Dr. Melvyn Lieberman, professor of physiology, during an International Conference on Methods to Culture Human Tissues and Cells, sponsored by the National Heart, Lung and Blood Institute and National Cancer Institute.

* * *

Newly appointed assistant professors and their departments are Dr. Robert A. Hock in psychiatry and pediatrics; Dr. Philip D. Lumb in anesthesiology; and Dr. George D. Webster in surgery.

Promoted from assistant professor to associate professor of surgery was Dr. Robert Howard Jones, who retains his position as assistant professor of radiology.

News Notes from the—

BOWMAN GRAY SCHOOL OF MEDICINE WAKE FOREST UNIVERSITY

The Bowman Gray School of Medicine/North Carolina Baptist Hospital Medical Center has joined with Forsyth Memorial Hospital and Forsyth Radiological Associates in a consolidation of radiation therapy services in Forsyth County.

Forsyth Radiological Associates is a group of radiologists who contract with Forsyth Memorial to provide professional services for the hospital's radiology department.

Improved health care and reduced costs are the consolidation's goals.

When the consolidation takes place on July 1, it is expected to create the largest radiation therapy service in the southeast, with 25,000 radiation therapy treatments a year, and one of the 10 largest in the nation.

Dr. Juan Santos, the radiation therapist with Forsyth Radiological Associates, will join Bowman Gray's clinical faculty under the terms of the consolidation. Bowman Gray's Department of Clinics will bill for professional services in the consolidated program.

Radiation therapy will continue to be offered at Baptist and Forsyth Memorial hospitals. But, according to Dr. C. Douglas Maynard, professor and chairman of Bowman Gray's Department of Radiology, "We'll function as one unit."

Forsyth Memorial will offer services with its cobalt unit and Baptist Hospital will serve patients with its cobalt unit and two linear accelerators. Patients will receive treatment at the facility considered most appropriate.

With consolidation, computerized therapy planning at the medical center will be available at both hospitals, as will the services of the medical center's radiation physicists and radiation's therapy planner.

By pooling patients into a single program, it will be more economical for the community to add new radiation therapy technology. The medical center is planning to add an 18 MEV linear accelerator because of its added treatment capabilities.

The consolidation will eliminate possible future duplications not only of technology such as the accelerator, but also of services and personnel.

* * *

Dr. Michael R. Lawless, assistant professor of pediatrics at the Bowman Gray School of Medicine, has been appointed medical director of the Reynolds Health Center in Winston-Salem. He succeeds Dr. E. Ted Chandler, who has resigned to enter private practice in Asheville.

Bowman Gray, through an agreement with the Forsyth County Commissioners, is responsible for professional services at the Reynolds Health Center. Nine physicians from the medical school make up the professional staff of the health center.

Lawless, who joined the Bowman Gray faculty in 1974, is director of ambulatory pediatric services at the medical school.



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Studies conducted at the Bowman Gray School of Medicine indicate that subtle changes in the inner layer of the aorta may be the first identifiable signs in the development of atherosclerosis.

With the help of an electron microscope, Dr. Alberto A. Trillo, assistant professor of pathology, has detected changes in the inner layer of the aorta long before the disease could be identified by gross examination.

The most conspicuous of his findings with research animals was a marked increase of Weibel-Palade bodies and the indication that those bodies release their content into the vessel walls. Also detected were the beginnings of channels in the vessel walls, suggesting the route through which fatty material is transported.

* * *

The biomedical graduate studies program at Bowman Gray recently saw its 200th student receive a graduate degree.

The program is part of the graduate school of Wake Forest University. Seventy-two Ph.D. degrees and 128 M.S. degrees have been earned on the Bowman Gray campus.

* * *

Ten new faculty members recently were appointed at the Bowman Gray School of Medicine.

Appointed assistant professors were Dr. Carlos A. Agudelo, medicine (rheumatology); Dr. C. Drew Edwards, pediatrics (psychology); Dr. Philip W. Landfield, physiology; and Dr. K. Patrick Ober, medicine (endocrinology).

Appointed as instructors were Sandra M. Maree, C.R.N.A., anesthesia (nurse anesthesia); Dr. J. Richard Marion III, surgery (ophthalmology); Dr. W. Ward Patrick, family and community medicine (physician assistant program); Dr. George W. Plonk Jr., surgery; Dr. Harold F. Stills Jr., comparative medicine; and Dr. David A. Stump, neurology (neuropsychology).

* * *

Dr. Henry M. Chilton, instructor in radiology (radiopharmacy), has been appointed newsletter editor of the Southeastern Chapter, Society of Nuclear Medicine.

* * *

Dr. George D. Rovere, associate professor of orthopedic surgery, has been appointed to the Committee on Continuing Medical Education of the American Orthopedic Society for Sports Medicine.

* * *

Dr. William D. Wagner, assistant professor of comparative medicine, has been elected chairman of the Mid-Atlantic Research Review and Certification Subcommittee of the American Heart Association.

Tenuate®
(diethylpropion hydrochloride NF)

Tenuate Dospan®
(diethylpropion hydrochloride NF) controlled-release

AVAILABLE ONLY ON PRESCRIPTION

Brief Summary

INDICATION: Tenuate and Tenuate Dospan are indicated in the management of exogenous obesity as a short-term adjunct (a few weeks) in a regimen of weight reduction based on caloric restriction. The limited usefulness of agents of this class should be measured against possible risk factors inherent in their use such as those described below.

CONTRAINDICATIONS: Advanced arteriosclerosis, hyperthyroidism, known hypersensitivity or idiosyncrasy to the sympathomimetic amines, glaucoma, agitated states. Patients with a history of drug abuse. During or within 14 days following the administration of monoamine oxidase inhibitors, (hypertensive crises may result).

WARNINGS: If tolerance develops, the recommended dose should not be exceeded in an attempt to increase the effect; rather, the drug should be discontinued. Tenuate may impair the ability of the patient to engage in potentially hazardous activities such as operating machinery or driving a motor vehicle, the patient should therefore be cautioned accordingly. **Drug Dependence:** Tenuate has some chemical and pharmacologic similarities to the amphetamines and other related stimulant drugs that have been extensively abused. There have been reports of subjects becoming psychologically dependent on diethylpropion. The possibility of abuse should be kept in mind when evaluating the desirability of including a drug as part of a weight reduction program. Abuse of amphetamines and related drugs may be associated with varying degrees of psychologic dependence and social dysfunction which, in the case of certain drugs, may be severe. There are reports of patients who have increased the dosage to many times that recommended. Abrupt cessation following prolonged high dosage administration results in extreme fatigue and mental depression, changes are also noted on the sleep ECG. Manifestations of chronic intoxication with anorectic drugs include severe dermatoses, marked insomnia, irritability, hyperactivity, and personality changes. The most severe manifestation of chronic intoxications is psychosis, often clinically indistinguishable from schizophrenia. **Use in Pregnancy:** Although rat and human reproductive studies have not indicated adverse effects, the use of Tenuate by women who are pregnant or may become pregnant requires that the potential benefits be weighed against the potential risks. **Use in Children:** Tenuate is not recommended for use in children under 12 years of age.

PRECAUTIONS: Caution is to be exercised in prescribing Tenuate for patients with hypertension or with symptomatic cardiovascular disease, including arrhythmias. Tenuate should not be administered to patients with severe hypertension. Insulin requirements in diabetes mellitus may be altered in association with the use of Tenuate and the concomitant dietary regimen. Tenuate may decrease the hypotensive effect of guanethidine. The least amount feasible should be prescribed or dispensed at one time in order to minimize the possibility of overdose. Reports suggest that Tenuate may increase convulsions in some epileptics. Therefore, epileptics receiving Tenuate should be carefully monitored. Titration of dose or discontinuance of Tenuate may be necessary.

ADVERSE REACTIONS: **Cardiovascular:** Palpitation, tachycardia, elevation of blood pressure, precordial pain, arrhythmia. One published report described T-wave changes in the ECG of a healthy young male after ingestion of diethylpropion hydrochloride. **Central Nervous System:** Overstimulation, nervousness, restlessness, dizziness, jitteriness, insomnia, anxiety, euphoria, depression, dysphoria, tremor, dyskinesia, mydriasis, drowsiness, malaise, headache; rarely psychotic episodes at recommended doses. In a few epileptics an increase in convulsive episodes has been reported. **Gastrointestinal:** Dryness of the mouth, unpleasant taste, nausea, vomiting, abdominal discomfort, diarrhea, constipation, other gastrointestinal disturbances. **Allergic:** Urticaria, rash, ecchymosis, erythema. **Endocrine:** Impotence, changes in libido, gynecomastia, menstrual upset. **Hematopoietic System:** Bone marrow depression, agranulocytosis, leukopenia. **Miscellaneous:** A variety of miscellaneous adverse reactions has been reported by physicians. These include complaints such as dyspnea, hair loss, muscle pain, dysuria, increased sweating, and polyuria.

DOSAGE AND ADMINISTRATION: Tenuate (diethylpropion hydrochloride): One 25 mg. tablet three times daily, one hour before meals, and in mid-evening if desired to overcome night hunger. Tenuate Dospan (diethylpropion hydrochloride) controlled-release: One 75 mg. tablet daily, swallowed whole, in mid-morning. Tenuate is not recommended for use in children under 12 years of age.

OVERDOSAGE: Manifestations of acute overdosage include restlessness, tremor, hyperreflexia, rapid respiration, confusion, assaultiveness, hallucinations, panic states. Fatigue and depression usually follow the central stimulation. Cardiovascular effects include arrhythmias, hypertension or hypotension and circulatory collapse. Gastrointestinal symptoms include nausea, vomiting, diarrhea, and abdominal cramps. Overdose of pharmacologically similar compounds has resulted in fatal poisoning, usually terminating in convulsions and coma. Management of acute Tenuate intoxication is largely symptomatic and includes lavage and sedation with a barbiturate. Experience with hemodialysis or peritoneal dialysis is inadequate to permit recommendation in this regard. Intravenous phenolamine (Regitine®) has been suggested on pharmacologic grounds for possible acute, severe hypertension, if this complicates Tenuate overdosage.

Product Information as of April, 1976

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Direct Medical Inquiries to

MERRELL-NATIONAL LABORATORIES

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References: 1. Citations available on request — Medical Research Department, MERRELL RESEARCH CENTER, MERRELL-NATIONAL LABORATORIES, Cincinnati, Ohio 45215. 2. Hoekenga, M.T., O'Dillon, R.H., and Leyland, H.M. A Comprehensive Review of Diethylpropion Hydrochloride. International Symposium on Central Mechanisms of Anorectic Drugs, Florence, Italy, Jan. 20-21, 1977.

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8-3921 (YSB7A)

**Whether overweight is a
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or just uncomplicated overweight.**

Tenuate[®] Dospan[®] ^{IV} **(diethylpropion hydrochloride NF)**

75 mg. controlled-release tablets

A useful short-term adjunct in an indicated weight loss program.

Overweight patients in certain diagnostic categories often require strict obesity control. Diethylpropion hydrochloride has been reported useful in obese patients with hypertension, symptomatic cardiovascular disease, or diabetes. While it is not suggested that Tenuate in any way reduces these complications in the overweight, it may have a useful place as a short-term adjunct in a prescribed dietary regimen. (Tenuate should not be administered to patients with severe hypertension; see additional Warnings and Precautions on the opposite page.)

In uncomplicated obesity.

Many patients, on the other hand, present with excess fat but no disease. While this condition is often termed uncomplicated obesity, complications of both a social and a psychologic nature may be distressingly real for the patients. In these cases, a short-term regimen of Tenuate can help reinforce your dietary counsel during the important early weeks of an indicated weight loss program.

Clinical effectiveness.

The anorexic effectiveness of diethylpropion hydrochloride is well documented. No less than 16 separate double-blind, placebo-controlled studies attest to its usefulness in daily practice.¹ And the unique chemistry of Tenuate provides "...anorexic potency with minimal overt central nervous system or cardiovascular stimulation."² Compared with the amphetamines, diethylpropion has minimal potential for abuse.

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For prescribing information see opposite page

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Each capsule contains 50 mg. of Dyrenium® (brand of triamterene) and 25 mg. of hydrochlorothiazide.

Makes Sense

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The triamterene in 'Dyazide' limits potassium loss and provides an additive diuretic effect to that of the hydrochlorothiazide component.

In Hypertension

As the hydrochlorothiazide in 'Dyazide' lowers blood pressure, the triamterene component limits potassium loss.

Serum K⁺ and BUN should be checked periodically

particularly in the elderly, diabetics, and those with suspected or confirmed renal insufficiency (see Warnings). If hyperkalemia develops, substitute a thiazide alone.



Before prescribing, see complete prescribing information in SK&F Co. literature or PDR. A brief summary follows:

* WARNING

This drug is not indicated for initial therapy of edema or hypertension. Edema or hypertension requires therapy titrated to the individual. If this combination represents the dosage so determined, its use may be more convenient in patient management. Treatment of hypertension and edema is not static, but must be reevaluated as conditions in each patient warrant.

Contraindications: Further use in anuria, progressive renal or hepatic dysfunction, hyperkalemia. Pre-existing elevated serum potassium. Hypersensitivity to either component or other sulfonamide-derived drugs.

Warnings: Do not use potassium supplements, dietary or otherwise, unless hypokalemia develops or dietary intake of potassium is markedly impaired. If supplementary potassium is needed, potassium tablets should not be used. Hyperkalemia can occur, and has been associated with cardiac irregularities. It is more likely in the severely ill, with urine volume less than one liter/day, the elderly and diabetics with suspected or confirmed renal insufficiency. Periodically, serum K⁺ levels should be determined. If hyperkalemia develops, substitute a thiazide alone, restrict K⁺ intake. **Associated widened QRS complex or arrhythmia requires prompt additional therapy.** Thiazides cross the placental barrier and appear in cord blood. Use in pregnancy requires weighing anticipated benefits against possible hazards, including fetal or neonatal jaundice, thrombocytopenia, other adverse reactions seen in adults. Thiazides appear and triamterene may appear in breast milk. If their use is essential, the patient should stop nursing. Adequate information on use in children is not available.

Precautions: Do periodic serum electrolyte determinations (particularly important in patients vomiting excessively or receiving parenteral fluids). Periodic BUN and serum creatinine determinations should be made, especially in the elderly, diabetics or those with suspected or confirmed renal insufficiency. Watch for signs of impending coma in severe liver disease. If spironolactone is used concomitantly, determine serum K⁺ frequently; both can cause K⁺ retention and elevated serum K⁺. Two deaths have been reported with such concomitant therapy (in one, recommended dosage was exceeded, in the other serum electrolytes were not properly monitored). Observe regularly for possible blood dyscrasias, liver damage, other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving triamterene, and leukopenia, thrombocytopenia, agranulocytosis, and aplastic anemia have been reported with thiazides. Triamterene is a weak folic acid antagonist. Do periodic blood studies in cirrhotics with splenomegaly. Anti-hypertensive effect may be enhanced in post-sympathectomy patients. Use cautiously in surgical patients. The following may occur: transient elevated BUN or creatinine or both, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), hyperuricemia and gout, digitalis intoxication (in hypokalemia), decreasing alkali reserve with possible metabolic acidosis. 'Dyazide' interferes with fluorescent measurement of quinidine.

Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth; anaphylaxis, rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting, diarrhea, constipation, other gastrointestinal disturbances. Necrotizing vasculitis, paresthesias, icterus, pancreatitis, xanthopsia and, rarely, allergic pneumonitis have occurred with thiazides alone.

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Report on Litigation To the House of Delegates American Medical Association

Delivered by Newton N. Minow
Chicago, Illinois
December 3, 1978

INTRODUCTION

Beset on every hand, as medicine seems to be, a clear description of the AMA's position on chiropractic litigation, the Federal Trade Commission and related matters should at least help us understand many of the problems we face and make us appreciate that superficial responses may be worse than none at all. Therefore, the *Journal* is pleased to offer to its readers a speech delivered by Newton N. Minow at the meeting of the House of Delegates of the AMA in Chicago on December 3, 1978. Although it may seem lengthy to some and others may miss "Month in Washington" for a few issues, the *Journal* believes that every member of the Society would profit from reading what Mr. Minow has to say. For those who might like to pursue the matter further, Aaron Wildavsky, an eminent political scientist, now the president of the Russell Sage Foundation, has offered some searching comments about risk and regulation in general in an article, "No Risk Is the Highest Risk of All," in *American Scientist* 67:32-37, 1979.

J.H.F.

Delegates, Officers, and Guests of the American Medical Association —

I am honored to be here today to report to you on the status of the litigation in which the American Medical Association is a party. I will describe briefly the legal actions in which the association is involved and explain the reasoning behind the positions that the association is taking in each case.

Our firm, Sidley & Austin, was first retained by the AMA in 1974. Since that time, we have been carrying out the association's determined effort to maintain individual freedom and independence in the practice of medicine as a learned and noble profession. The

first case in which we represented the association, for example, raised the question of whether the Department of Health, Education and Welfare could lawfully promulgate regulations which unduly interfered with the exercise of physicians' professional judgments regarding the hospitalization of patients. As many of you will recall, we succeeded in having those regulations struck down by a federal district court which was affirmed by a Court of Appeals. You will be interested to know that in June of this year, the government published an announcement in the *Federal Register* finally conceding that these regulations were unlawful.

We live in a time of increasing governmental intervention in the delivery of medical care. Your association has, therefore, increasingly taken to the courts to limit bureaucratic interference with the practice of medicine and governmental disregard for the rights of patients and the physicians who serve them. The AMA's efforts in this area have continued during the past year.

Last spring, the Secretary of Health, Education and Welfare announced his intention to publish a list of all physicians who treated Medicare beneficiaries in 1977 and to attribute to each physician the amount of income that he or she allegedly had received in Medicare payments. The only justification that the secretary has offered for this invasion of privacy is that publication of this information might stimulate debate on the costs of health care. Representatives of this association pointed out to Secretary Joseph A. Califano that this goal could be achieved equally well — but without interfering with anyone's privacy — by not identifying individual physicians or simply by breaking down expenditures by medical procedure rather than by provider. Yet the secretary refused to compromise.

Consequently, your association took the matter last

June to federal court in Chicago. We were successful in obtaining a court order preventing the proposed publication of the information. At the suggestion of the judge, we then intervened in a pre-existing case in Jacksonville, Florida, in which another court had granted a similar request in a suit previously filed by the Florida Medical Association. This fall the United States District Court in Jacksonville issued a writ of injunction restraining publication of any of the information on the proposed list. Despite the determined efforts of the government to have this injunction lifted, I can report to you that HEW is still enjoined from publishing the list. A battle on this issue lies ahead, and I assure you that we will continue to make every effort to see that it is never published.

At just about the same time that HEW indicated that it would publish the list of the Medicare-related incomes of identified physicians, the Federal Trade Commission promulgated a Trade Regulation Rule entitled "Advertising of Ophthalmic Goods and Services." Among other things, this rule would invalidate all state laws governing the advertising and dispensing of ophthalmic goods and services which the commission deems unfair. The rule has direct and immediate ramifications for ophthalmologists. Of great significance, the rule would, if upheld by the courts, establish the astonishing authority of the Federal Trade Commission to override the laws and policy decisions of state legislatures in medical matters whenever the

commission considers these decisions unfair. It could serve as a precedent which might lead the commission to try to strike down other state laws such as those regulating medical licensure, medical discipline, and medical practice. Thus, the Ophthalmic Goods Rule poses a threat to the practice of medicine which far transcends its immediate terms.

Your association has therefore challenged the Federal Trade Commission by turning to the courts. Along with nine sovereign states and the American Optometric Association, we sought review of the Ophthalmic Goods Rule in the United States Court of Appeals in Washington. If the court adheres to its customary time schedule, the case will be heard in late spring, and a decision will follow sometime late 1979 or 1980. I think it likely that this case will ultimately reach the Supreme Court.

Your association is also resisting efforts by the Federal Trade Commission to remove it from the process of accreditation of medical schools. In an unprecedented move, the commission appeared before the United States Office of Education last year to urge that the Liaison Commission on Medical Education not be recertified as the official accrediting agency for medical education. It argued that because some of the members of the LCME were appointed by the AMA, the LCME could not be counted upon to make impartial decisions on matters of accreditation. The notion that a professional association should not be involved

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PENTYLENETETRAZOL (Metrazol)	50mg
NIACIN	50mg
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ADMINISTRATION AND DOSAGE: One or two tablets three or four times daily before or after meals.

INDICATIONS: **TEGA-VERT** is indicated in the symptomatic management of idiopathic vertigo, as well as that associated with Meniere's Syndrome, Arterial Hypertension, Labyrinthitis, Fenestration Procedures, Radiation Sickness and Tonic Effect. **TEGA-VERT** has also been of value in patients with clinical symptoms of senility and functional cerebral impairment as well as symptomatic nausea.

CONTRAINDICATIONS: **TEGA-VERT** should not be used in patients with known history of sensitivity to any of its ingredients. Because of its vasodilating effects, niacin is contraindicated in the presence of arterial hypotension.

PRECAUTIONS AND SIDE EFFECTS: Although there are not absolute contraindications to oral pentylenetetrazol, it should be used with caution in epileptic patients or those known to have a low convulsive threshold. Dimenhydrinate, like other antihistamines may produce sedative side effects, therefore, caution against operating mechanical equipment should be observed. This has not been a significant problem with **TEGA-VERT** since it contains a mild central nervous system stimulant. Niacin can produce transient flushing and sensations of warmth.

HOW SUPPLIED: Bottles of 100 and 1000 tablets.

CAUTION: Federal law prohibits dispensing without a prescription.

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in such matters is of course reprehensible. The AMA was founded to improve the quality of medical education and has worked continuously for over a century to effectuate this goal. Accordingly, both your association and the LCME strongly opposed the position that the FTC took before the Office of Education. After a hearing and a review of past performance, the LCME was provisionally recertified for two years as the officially recognized accrediting agency for medical schools. That battle will again be fought next year.

Undaunted, the Federal Trade Commission launched its own investigation of alleged efforts by the AMA to restrict the number of physicians graduating from medical school. That investigation has now been pending for over a year. A formal complaint has not as yet been issued. Interestingly, the commission's staff person with primary responsibility for health matters recently was quoted in the press as saying that the AMA may not have restricted entry into medical schools after all. The facts may be getting through.

In another area, the facts have not been getting through. I turn now to the attack brought by the Federal Trade Commission on the association's ethical standards. In 1975, the FTC issued, without any prior notice or investigation, a complaint challenging the ethical principles applicable to advertising and solicitation by physicians. The FTC also attacked the ethical guidelines applicable to a variety of contractual arrangements entered into by physicians — for example, the ethics of a partnership between a physician and a lay person.

When this proceeding was instituted in December of 1975, we attempted to settle the case. We hoped to settle for two reasons. First, we knew that it would be difficult to find a less favorable forum for resolution of the issues raised by the case than the Federal Trade Commission. We feared that we would not get a fair, unbiased proceeding because the commission had already displayed its hostility to organized medicine. Furthermore, the administrative law judge assigned to the case had been for many years a prosecutor for the commission. Finally, we knew that, incredible as it might seem to a non-lawyer, we would have to appeal the initial decision of the administrative law judge to the full Federal Trade Commission — the very people who directed the complaint in the first instance.

Indeed, just last month, all four members of a panel reporting to the National Commission for the Review of Antitrust Laws and Procedures recommended that the FTC's antitrust litigation responsibilities be terminated or significantly modified. As panel member Professor Glen Weston of George Washington Law School observed, the majority of administrative law judges have served as FTC prosecuting lawyers. Moreover, there is also the problem that three of the five commissioners had no significant training in antitrust law before their appointments.

Our second reason for seeking to settle was that since the case would involve the production of thousands of documents and scores of witnesses from around the country, we knew that it would be ex-

ceedingly costly. The investigation of each document and the preparation of each witness is a difficult, time-consuming, and costly task. So we hoped to be able to save the association the enormous expense that the case would inevitably entail.

But the staff of the commission flatly rejected our position that professional associations, including the AMA, have not only the right but the responsibility and duty to see that advertising by their members is limited to truthful, objective, verifiable information that will help enable patients to make an informed choice among physicians. Instead, the commission insisted that the AMA and state and local medical societies should play absolutely no role in setting standards of ethical promotional practices by their members. The staff insisted that advertising by physicians should be regulated exclusively by the government. This was a position that neither you nor we could accept, for it is premised on the proposition that professional men and women cannot be trusted to regulate themselves in the public interest. And that proposition is fundamentally inconsistent with the association's basic principles.

The decision of the administrative law judge was announced, and after reading it, I submit that George Orwell's 1984 has arrived six years early. The world of Big Brother, seeking to take over the independent, professional practice of medicine, has arrived in 1978.

I wish there were time to undertake an extensive legal analysis of the decision. I will limit this to a summary of our arguments and the manner in which they were resolved.

First, the FTC has jurisdiction only over persons, partnerships, and for-profit corporations. Since the AMA is clearly not a person or a partnership, the question is whether it is organized for the profit of itself or its members. We demonstrated that the vast majority of the association's activity is devoted to scientific, educational, and public health matters. The judge, however, chose to discount this evidence and to find that the AMA is organized for the profit of its members because it has done such things as offer its members a retirement plan and oppose enactment of certain forms of national health insurance.

Second, we argued that the AMA should be judged on its current ethical positions, not on the basis of statements from the 1930s, '40s, '50s and '60s made in a vastly different legal and social climate. The judge absolutely refused to accept this argument and virtually ignored the 1977 edition of the *Opinions and Reports of the Judicial Council*.

We pointed out that questions of ethics are local matters which arise locally and are resolved locally. We demonstrated that state and local medical societies are autonomous organizations which made decisions independently of the AMA. Apparently ignoring this evidence, the judge found that there is a grand conspiracy among the AMA and state and local medical societies to stifle all advertising and subvert any innovative form of health care delivery.

I could go on and on and on, but the opinion is 312

pages, single-spaced. The one positive note is that this order is not a final one. It still must go before the full Federal Trade Commission, the United States Court of Appeals, and possibly the Supreme Court before it becomes final. While we are not optimistic about the results before the FTC, we are hopeful that we shall find justice when we have our day in the federal courts. We will not rest until this misguided decision — so contrary to the public interest and so alien to our basic American traditions of freedom — is overturned.

I say that because I believe that the initial decision of the administrative law judge is a direct assault on the entire concept of professionalism and will, if allowed to stand, lead to the deception and injury of thousands upon thousands of innocent patients.


The order entered by the administrative law judge would forbid the AMA and its constituent and component medical societies from involving themselves in any way in the advertising, promotional practices, or contractual arrangements of physicians. Thus, if an AMA member were to make misleading claims about his or her skill or fees, the medical societies would be powerless even to advise the physician of the problem or to declare the advertising unethical. All that they

could do would be to complain to Big Brother — in the form of the FTC.

It must be asked: How could this administrative law judge have reached these results? The short answer is that he distorted or ignored much of the evidence and most of the applicable law.

In our defense of the case, we offered witnesses who had literally been mutilated after responding to misleading advertisements and high pressure tactics of certain advertising physicians. We have testimony from the mother of a woman who died as a result of an abdominoplasty performed by an advertising physician after several other physicians had advised the patient that she was unacceptable risk for surgery. On the witness stand, these patients begged medical societies to do something to prevent the fraud and incompetence to which they had fallen victim. Now a Federal Trade Commission employee has said that the medical profession is prohibited by law from doing anything to regulate this kind of behavior. And it is equally forbidden to take any action against those within its ranks who advertise the worst sort of abortion mills, who claim that they will guarantee a weight loss of 20 pounds within two weeks, and who make other statements which lead patients to choose physi-

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cians on the basis of who is the best advertiser rather than who is the best physician.

As outrageous as this is, there is another aspect of the administrative law judge's order which is even more sweeping. And that is this: The AMA may not even establish ethical guidelines governing the advertising and solicitation practices of its members unless it first obtains "the permission and approval of the Federal Trade Commission." This provision has staggering implications for the First Amendment, the traditions of professionalism, and ethical standards which have always been basic values in our society. This provision would mean that federal officials in

Washington, and not the profession itself, would determine what constitutes ethical behavior by physicians.

I am reminded of the poem "The Second Coming" by William Butler Yeats. In that poem, Yeats said, "The best lack all conviction/While the worst are full of passionate intensity." In its misguided zeal, the Federal Trade Commission has been full of passionate intensity. But we as professionals must never lose the courage of our convictions. We will do everything we can to seek reversal of this attempt to put the independent practice of medicine in the hands of government.

To be continued.



... we have obtained evidence for the first time, by direct sampling and analysis that fluid from the bend of the loop of Henle is as hyperosmotic as that from a collection duct at the same level in the concentrating kidney.

Loop of Henle. Fourteen samples of fluid were collected from, or very close to, the bend of the thin limb of loops of Henle in eight hamsters and one kangaroo rat. The osmolality of fluid from the loop was the same, or almost the same as fluid from an adjacent collecting duct at the same level. . . .

These experiments confirm the previous mammalian micropuncture findings that proximal tubular reabsorption is an isosmotic process; that in the presence of antidiuretic hormone (ADH), early distal fluid is hypo-osmotic but is again isosmotic as it leaves the distal convolution and enters the collecting tubules, in which the hyperosmotic phase of urine concentration occurs. . . .

... the isosmotic fluid leaving the proximal convolutions became hyperosmotic in the loop of Henle, before emerging hypo-osmotic at the top of the loop. These results constitute strong evidence that the loop of Henle participates in a countercurrent multiplier system. . . .

The vasa recta also participate in this mechanism, as first shown by Wirz and now confirmed by us, and apparently function as countercurrent diffusion exchangers. They make the entire mechanism far more effective, resulting in a higher osmotic gradient, by tending to trap sodium, urea and other diffusible solutes in the medulla. — Carl W. Gottschalk and Margaret Mylle. Micropuncture Study of the Mammalian Urinary Concentrating Mechanism; Evidence for the Countercurrent Hypothesis. *Am J Physiol* 196;927-936, 1959. (Reproduced with permission.)

In Memoriam

ROBERT MARION WILHOIT, M.D.

Robert Wilhoit was born in Troy, N.C., on September 26, 1924. He decided in early years of his life to become a physician. He received his B.S. degree from Wake Forest University in 1944 and his M.D. degree from Duke University School of Medicine in 1948. He was a resident at Rex Hospital in Raleigh and from there went to Charlotte Memorial Hospital.

Dr. Wilhoit served with the armed forces from 1951 to 1953. Except for those years, he maintained a family practice in Asheboro from the time he completed his residency until his death December 3, 1978.

He was a member of the Randolph County Medical Society, the North Carolina Medical Society, the American Medical Association, the Southern Medical Society and was a fellow in the American Academy of Family Practice. He was a scholar, scientist, diagnostician and a person loved and respected by his many friends and patients. He was a dedicated physician concerned with the health and welfare of every individual who sought his help.

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Warnings: Deaths from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias have been associated with sulfonamides. Experience with trimethoprim is much more limited but occasional interference with hematopoiesis has been reported as well as an increased incidence of thrombopenia with purpura in elderly patients on certain diuretics, primarily thiazides. Sore throat, fever, pallor, purpura or jaundice may be early signs of serious blood disorders. Frequent CBC's are recommended; therapy should be discontinued if a significantly reduced count of any formed blood element is noted.

Precautions: Use cautiously in patients with impaired renal or hepatic function, possible folate deficiency, severe allergy or bronchial asthma. In patients with glucose-6-phosphate dehydrogenase deficiency, hemolysis, frequently dose-related, may occur. During therapy, maintain adequate fluid intake and perform frequent urinalyses, with careful microscopic examination, and renal function tests, particularly where there is impaired renal function.

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peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo, insomnia, apathy, fatigue, muscle weakness and nervousness. **Miscellaneous reactions:** Drug fever, chills, toxic nephrosis with oliguria and anuria, periarteritis nodosa and L. E. phenomenon. Due to certain chemical similarities to some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia in patients; cross-sensitivity with these agents may exist. In rats, long-term therapy with sulfonamides has produced thyroid malignancies.

Dosage: Not recommended for infants less than two months of age.

Urinary Tract Infections: Usual adult dosage—1 DS tablet (double strength), 2 tablets (single strength) or 4 teasp. (20 ml) b.i.d. for 10-14 days.

Recommended dosage for children—8 mg/kg trimethoprim and 40 mg/kg sulfamethoxazole per 24 hours, in two divided doses for 10 days. A guide follows:

Children two months of age or older

Weight		Dose—every 12 hours	
lbs	kgs	Teaspoonfuls	Tablets
20	9	1 teasp. (5 ml)	½ tablet
40	18	2 teasp. (10 ml)	1 tablet
60	27	3 teasp. (15 ml)	1½ tablets
80	36	4 teasp. (20 ml)	2 tablets or 1 DS tablet

For patients with renal impairment.

Creatinine Clearance (ml/min)	Recommended Dosage Regimen
Above 30	Usual standard regimen
15-30	½ the usual regimen
Below 15	Use not recommended

***Pneumocystis carinii* pneumonitis:** Recommended dosage: 20 mg/kg trimethoprim and 100 mg/kg sulfamethoxazole per 24 hours in equal doses every 6 hours for 14 days. See complete product information for suggested children's dosage table.

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Please see reverse side for summary of product information.

NORTH CAROLINA

Medical Journal

The Official Journal of the NORTH CAROLINA MEDICAL SOCIETY □ □ □ June 1979, Vol. 40, No. 6

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Warnings: Warn patients that mental and/or physical abilities required for tasks such as driving or operating machinery may be impaired, as may be mental alertness in children, and that concomitant use with alcohol or CNS depressants may have an additive effect. Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported.

Usage in Pregnancy: Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malforma-

tions as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.

Precautions: In the elderly and debilitated, and in children over six, limit to smallest effective dosage (initially 10 mg or less per day) to preclude ataxia or oversedation, increasing gradually as needed and tolerated. Not recommended in children under six. Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (e.g., excitement, stimulation and acute rage) have been reported in psychiatric patients and hyperactive aggressive children. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

Adverse Reactions: Drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally, making periodic blood counts and liver function tests advisable during protracted therapy.

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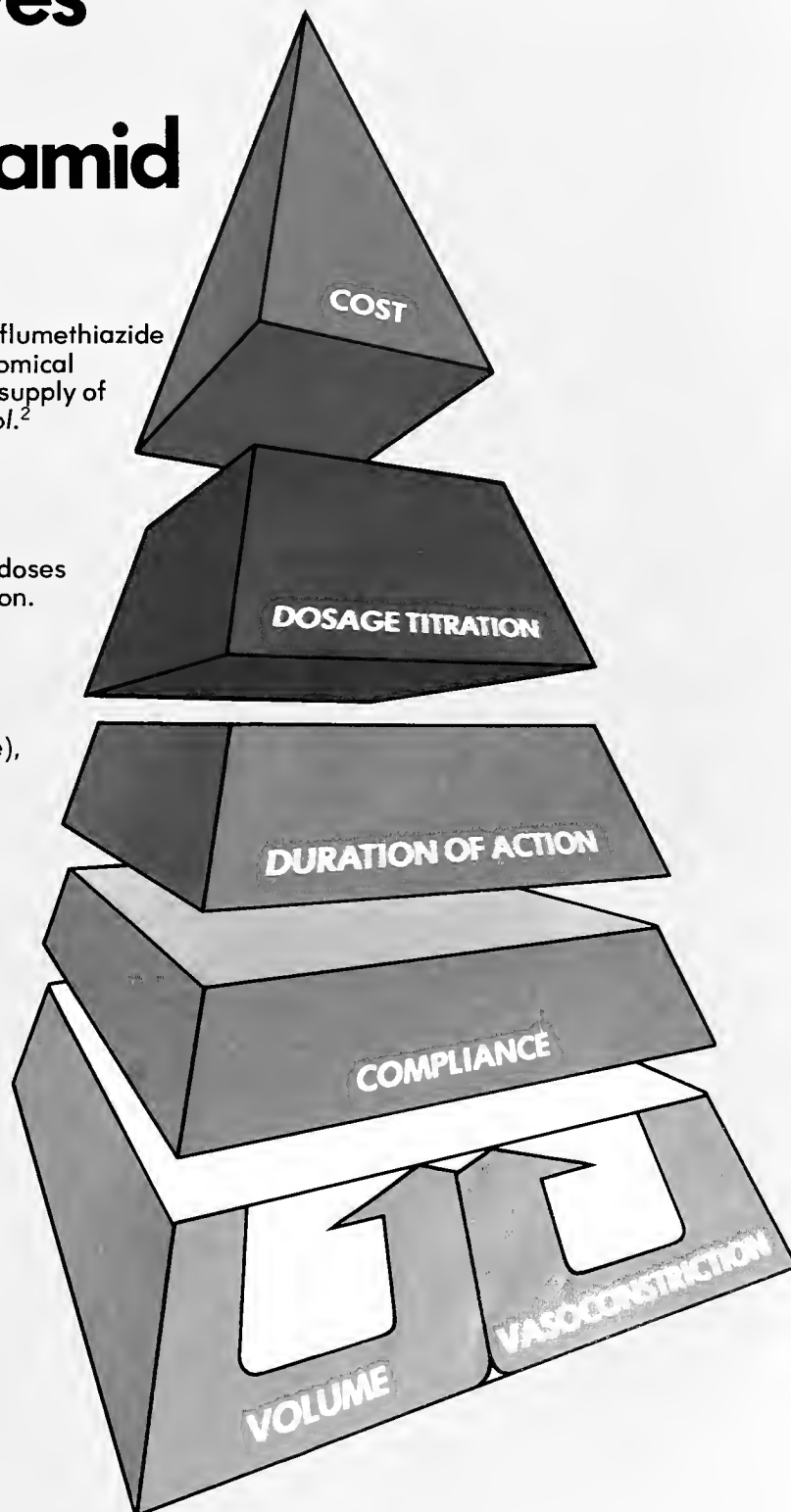
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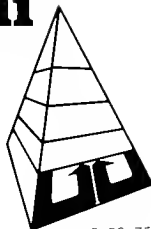
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Thiazides should be used with caution in patients with impaired hepatic function or progressive liver disease, since minor alterations of fluid and electrolyte balance may precipitate hepatic coma. Thiazides may be additive or potentiative of the action of other antihypertensive drugs. Potentiation occurs with ganglionic or peripheral adrenergic blocking drugs. Sensitivity reactions may occur in patients with a history of allergy or bronchial asthma.

The possibility of exacerbation or activation of systemic lupus erythematosus has been reported.

Usage in pregnancy: Usage of thiazides in women of childbearing age requires that the potential benefits of the drug be weighed against its possible hazards to the fetus. These hazards include fetal or neonatal jaundice, thrombocytopenia, and possibly other adverse reactions which have occurred in the adult.

Nursing mothers: Thiazides cross the placental barrier and appear in cord blood and breast milk.

PRECAUTIONS: Periodic determination of serum electrolytes to detect possible electrolyte imbalance should be performed at appropriate intervals.

All patients receiving thiazide therapy should be observed for clinical signs of fluid or electrolyte imbalance, namely, hyponatremia, hypochloremic alkalosis, and hypokalemia. Serum and urine electrolyte determinations are particularly important when the patient is vomiting excessively or receiving parenteral fluids. Medication such as digitalis may also influence serum electrolytes. Warning signs, irrespective of cause, are: Dryness of mouth, thirst, weakness, lethargy, drowsiness, restlessness, muscle pains or cramps, muscular fatigue, hypotension, oliguria, tachycardia, and gastrointestinal disturbances such as nausea and vomiting.

Hypokalemia may develop with thiazides as with any other potent diuretic, especially with brisk diuresis, when severe cirrhosis is present, or during concomitant use of corticosteroids or ACTH.

Interference with adequate oral electrolyte intake will also contribute to hypokalemia. Digitalis therapy may exaggerate metabolic effects of hypokalemia especially with reference to myocardial activity.

Any chloride deficit is generally mild and usually does not require specific treatment except under extraordinary circumstances (as in liver disease or renal disease). Dilutional hyponatremia may occur in edematous patients in hot weather; appropriate therapy is water restriction, rather than administration of salt except in rare instances when the hyponatremia is life threatening. In actual salt depletion, appropriate replacement is the therapy of choice.

Hyperuricemia may occur or frank gout may be precipitated in certain patients receiving thiazide therapy.

Insulin requirements in diabetic patients may be increased, decreased or unchanged. Latent diabetes mellitus may become manifested during thiazide administration.

Thiazide drugs may increase the responsiveness to tubocurarine.

The antihypertensive effects of the drug may be enhanced in the postsympathectomy patient.

Thiazides may decrease arterial responsiveness to norepinephrine. This diminution is not sufficient to preclude effectiveness of the pressor agent for therapeutic use.

If progressive renal impairment becomes evident, as indicated by a rising nonprotein nitrogen or blood urea nitrogen, a careful reappraisal of therapy is necessary with consideration given to withholding or discontinuing diuretic therapy.

Thiazides may decrease serum PBI levels without signs of thyroid disturbance.

ADVERSE REACTIONS:

A Gastrointestinal system reactions Anorexia, gastric irritation, nausea,

vomiting, cramping, diarrhea, constipation, jaundice (intrahepatic cholestatic jaundice), pancreatitis.

B. Central nervous system reactions: Dizziness, vertigo, paresthesias, headache, xanthopsia.

C. Hematologic reactions: Leukopenia, agranulocytosis, thrombocytopenia, aplastic anemia.

D. Dermatologic-Hypersensitivity reactions: Purpura, photosensitivity, rash, urticaria, necrotizing angitis (vasculitis) (cutaneous vasculitis).

E. Cardiovascular reaction: Orthostatic hypotension may occur and may be aggravated by alcohol, barbiturates, or narcotics.

F. Other: Hyperglycemia, glycosuria, hyperuricemia, muscle spasm, weakness, restlessness.

Whenever adverse reactions are moderate or severe, thiazide dosage should be reduced or therapy withdrawn.

USUAL DOSE: The average adult diuretic dose is 25 to 200 mg. per day. The average adult antihypertensive dose is 50 to 100 mg. per day.

Therapy should be individualized according to patient response. This therapy should be titrated to gain maximal therapeutic response as well as the minimal dose possible to maintain that therapeutic response.

HOW SUPPLIED: Saluron (hydroflumethiazide 50 mg.): Bottles of 100

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(hydroflumethiazide, reserpine antihypertensive formulation)

For complete information consult Official Package Circular.

WARNING

This fixed combination drug is not indicated for initial therapy of hypertension. Hypertension requires therapy titrated to the individual patient. If the fixed combination represents the dosage so determined, its use may be more convenient in patient management. The treatment of hypertension is not static, but must be reevaluated as conditions in each patient warrant.

CONTRAINDICATIONS: Anuria, oliguria, active peptic ulceration, ulcerative colitis, severe depression or hypersensitivity to its components contraindicates the use of Salutensin.

WARNINGS: Small-bowel lesions (obstruction, hemorrhage, perforation and death) have occurred during therapy with enteric-coated formulations containing potassium, with or without thiazides. Such potassium formulations should be used with Salutensin only when indicated and should be discontinued immediately if abdominal pain, distention, nausea, vomiting or gastrointestinal bleeding occurs. Use cautiously, and only when deemed essential, in fertile, pregnant or lactating patients.

Use in pregnancy: Thiazides cross the placenta and can cause fetal or neonatal hyperbilirubinemia, thrombocytopenia, altered carbohydrate metabolism and possibly electrolyte disturbances. Fetal reactions may occur with reserpine during electroshock therapy; discontinue Salutensin 2 weeks before such therapy. Increased respiratory secretions, nasal congestion, cyanosis and anorexia may occur in infants born to reserpine-treated mothers.

PRECAUTIONS: Azotemia, hypochloremia, hyponatremia, hypochloremic alkalosis and hypokalemia (especially with hepatic cirrhosis and corticosteroid therapy) may occur, particularly with pre-existing vomiting and diarrhea. Potassium loss may cause digitalis intoxication. Potassium responds to potassium-rich foods, potassium chloride or, if necessary, discontinuation of therapy. Serum ammonia elevation may precipitate coma in precomatose hepatic cirrhotics. Discontinue therapy 2 weeks before surgery or if myocardial irritability, progressive azotemia or severe depression occur. Exercise caution in patients with chronic uric acidemia, coronary thrombosis or extensive cerebral vascular disease or bronchial asthma and in those with a history of peptic ulceration or bronchial asthma; in postsympathectomy patients; in patients on quinidine; and in patients with gallstones, in whom biliary colic may occur. Patients who have diabetes mellitus or who are suspected of being diabetic should be kept under close observation if treated with this drug.

ADVERSE REACTIONS: Hydroflumethiazide: Skin-rashes (including exfoliative dermatitis), skin photosensitivity, urticaria, necrotizing angitis, xanthopsia, granulocytopenia, aplastic anemia, orthostatic hypotension (potentiated with alcohol, barbiturates or narcotics), allergic glomerulonephritis, acute pancreatitis, liver involvement (intrahepatic cholestasis, jaundice), purpura plus or minus thrombocytopenia, hyperuricemia, hyperglycemia, glycosuria, malaise, weakness, dizziness, fatigue, paresthesias, muscle cramps, skin rash, epigastric distress, vomiting, diarrhea and constipation. **Reserpine:** Depression, peptic ulceration, diarrhea, Parkinsonism, nasal stuffiness, dryness of the mouth, weight gain, impotence or decreased libido, conjunctival injection, dull sensation, deafness, glaucoma, uveitis, optic atrophy, and, with overdosage, ataxia, insomnia and nightmares.

USUAL DOSE: 1 tablet b.i.d.

HOW SUPPLIED: Salutensin (hydroflumethiazide 50 mg., reserpine 0.125 mg.): Bottles of 100 and 1000.

Salutensin-Demi (hydroflumethiazide 25 mg., reserpine 0.125 mg.): Bottles of 100.

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ointment may be used to prevent bacterial contamination in burns, skin grafts, incisions, and other clean lesions. For abrasions, minor cuts and wounds accidentally incurred, its use may prevent the development of infection and permit wound healing.

CONTRAINDICATIONS: This product is contraindicated in those individuals who have shown hypersensitivity to any of its components. Do not use in the eyes or in the external ear canal if the eardrum is perforated.

WARNING: Because of the potential hazard of nephrotoxicity and ototoxicity due to neomycin, care should be exercised when using this product in treating extensive burns, trophic ulceration and other extensive conditions where absorption of neomycin is possible. In burns where more than 20 percent of the body surface is affected, especially if the patient has impaired renal function or is receiving other aminoglycoside antibiotics concurrently, not more than one application a day is recommended.

When using neomycin-containing products to control

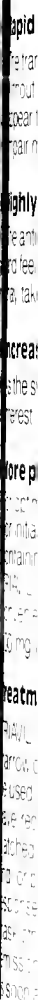
secondary infection in the chronic dermatoses, it should be borne in mind that the skin is more liable to become sensitized to many substances, including neomycin. The manifestation of sensitization to neomycin is usually a low grade reddening with swelling, dry scaling and itching; it may be manifest simply as failure to heal. During long-term use of neomycin-containing products, periodic examination for such signs is advisable and the patient should be told to discontinue the product if they are observed. These symptoms regress quickly on withdrawing the medication. Neomycin-containing applications should be avoided for that patient thereafter.

PRECAUTIONS: As with other antibacterial preparations, prolonged use may result in overgrowth of nonsusceptible organisms, including fungi. Appropriate measures should be taken if this occurs.

ADVERSE REACTIONS: Neomycin is a not uncommon cutaneous sensitizer. Articles in the current literature indicate an increase in the prevalence of persons allergic to neomycin. Ototoxicity and nephrotoxicity have been reported (see Warning section).

Complete literature available on request from Professional Services Dept. PML.

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CONTRAINDICATIONS: Central nervous system depression from drugs (barbiturates, alcohol, narcotics, analgesics, antihistamines); evidence of bone marrow depression; known hypersensitivity to phenothiazines or amitriptyline. Should not be given concomitantly with a monoamine oxidase inhibitor since hyperpyretic crises, severe convulsions, and deaths have occurred from such combinations. When used to replace a monoamine oxidase inhibitor, allow a minimum of 14 days to elapse before initiating therapy with TRIAVIL. Therapy should then be initiated cautiously with gradual increase in dosage until optimum response is achieved. Not recommended for use during acute recovery phase following myocardial infarction.

WARNINGS: TRIAVIL should not be given concomitantly with guanethidine or similarly acting compounds since TRIAVIL may block the antihypertensive action of such compounds. Use cautiously in patients with history of urinary retention, angle-closure glaucoma, increased intraocular pressure, or convulsive disorders. Dosage of anticonvulsive agents may have to be increased. In patients with angle-closure glaucoma, even average doses may precipitate an attack. Patients with cardiovascular disorders should be watched closely. Tricyclic antidepressants, including amitriptyline HCl, have been reported to produce arrhythmias, sinus tachycardia, and prolongation of conduction time, particularly in high doses. Myocardial infarction and stroke have been reported with tricyclic antidepressant drugs. Close supervision is required for hyperthyroid patients or those receiving thyroid medication. May impair mental and/or physical abilities required for performance of hazardous tasks, such as operating machinery or driving a motor vehicle. In patients who use alcohol excessively, potentiation may increase the danger inherent in any suicide attempt or overdose. Not recommended in children or during pregnancy.

PRECAUTIONS: Suicide is a possibility in depressed patients and may remain until significant remission occurs. Such patients should not have access to large quantities of this drug.

Perphenazine: Should not be used indiscriminately. Use with caution in patients who have previously exhibited severe adverse reactions to other phenothiazines. Likelihood of some untoward actions is greater with high doses. Closely supervise with any dosage. The antiemetic effect of perphenazine may obscure signs of toxicity due to overdose of other drugs or make more difficult the diagnosis of disorders such as brain tumor or intestinal obstruction. A significant, not otherwise explained, rise in body temperature may suggest individual intolerance to perphenazine, in which case discontinue.

If hypotension develops, epinephrine should not be employed, as its action is blocked and partially reversed by perphenazine. Phenothiazines may potentiate the action of central nervous system depressants (opiates, analgesics, antihistamines, barbiturates, alcohol) and atropine. In concurrent therapy with any of these, TRIAVIL should be given in reduced dosage. May also potentiate the action of heat and phosphorous insecticides. There is sufficient experimental evidence to conclude that chronic administration of antipsychotic drugs which increase prolactin secretion has the potential to induce mammary neoplasms in rodents under the appropriate conditions. There are recognized differences in the physiological role of prolactin between rodents and humans. Since there are, at present, no adequate epidemiological studies, the relevance to human mammary cancer risk from prolonged exposure to perphenazine and other antipsychotic drugs is not known.

Amitriptyline: In manic-depressive psychosis, depressed patients may experience a shift toward the manic phase if they are treated with an antidepressant. Patients with paranoid symptomatology may have an exaggeration of such symptoms. The tranquilizing effect of TRIAVIL seems to reduce the likelihood of this effect. When amitriptyline HCl is given with anticholinergic agents or sympathomimetic drugs, including epinephrine combined with local anesthetics, close supervision and careful adjustment of dosages are required. Paralytic ileus may occur in patients taking tricyclic antidepressants in combination with anticholinergic-type drugs.

Caution is advised if patients receive large doses of ethchlorvynol concurrently. Transient delirium has been reported in patients who were treated with ethchlorvynol and 75-150 mg of amitriptyline HCl.

Amitriptyline HCl may enhance the response to alcohol and the effects of barbiturates and other CNS depressants.

Concurrent administration of amitriptyline HCl and electroshock therapy increase the hazards associated with such therapy. Such treatment should be limited to patients for whom it is essential. Discontinue several days before surgery if possible. Elevation and lowering of blood sugar levels have been reported. Use with caution in patients with impaired liver function.

ADVERSE REACTIONS: Similar to those reported with either constituent. **Perphenazine:** Extrapyramidal symptoms (opisthotonus, oculogyration, hyperreflexia, dystonia, akathisia, acute dyskinesia, ataxia, parkinsonism) have been reported and can usually be controlled by the concomitant use of antiparkinsonian drugs and/or by reduction in dosage, but sometimes persistence of the phenothiazine.

Tardive dyskinesia may appear in some patients on long-term therapy and occur after drug therapy with phenothiazines and related agents is discontinued. The risk appears to be greater in elderly patients on long-term therapy, especially females. Symptoms are persistent and in some patients may be irreversible. The syndrome is characterized by rhythmic involuntary movements of the tongue, face, mouth, or jaw. Involuntary movements of the extremities sometimes occur. There is no known treatment for tardive dyskinesia. Antiparkinsonian agents usually do not alleviate the symptoms. It is advised that antipsychotic agents be discontinued if the above symptoms appear. If treatment is reinstituted, or dosage of the particular drug increased, or another drug is substituted, the syndrome may be masked. Fine vermicular movements of the tongue may be an early sign of the syndrome. The full-blown syndrome may not be detected if medication is stopped when lingual vermiculation appears.

Other side effects are skin disorders (photosensitivity, itching, urticaria, eczema, up to exfoliative dermatitis); other allergic reactions (laryngeal edema, angioneurotic edema, anaphylactoid reactions); peripheral edema; reversed epinephrine effect; hyperglycemia, endocrine disturbances (lactation, galactorrhea, gynecomastia, disturbances of menstrual cycle, cerebrospinal fluid proteins; paradoxical excitement; hypertension, hypotension, tachycardia, and ECG abnormalities (quinidine-like effect); reactivating cholinergic processes; catatonic-like states; autonomic reactions, such as constipation or salivation, headache, anorexia, nausea, vomiting, constipation, urinary frequency or incontinence, blurred vision, nasal congestion, and changes in pulse rate, other adverse reactions reported with various phenothiazine compounds, but not with perphenazine, include grand mal convulsions, edema, polyphagia, pigmentary retinopathy, photophobia, skin pigmentary failure of ejaculation.

The phenothiazine compounds have produced blood dyscrasias (leukopenia, thrombocytopenic purpura, leukopenia, agranulocytosis, eosinophilia) and liver damage (jaundice, biliary stasis).

Pigmentation of the cornea and lens has been reported to occur after administration of some phenothiazines. Although it has not been reported in patients receiving TRIAVIL, the possibility that it might occur should be considered.

Hypnotic effects, lassitude, muscle weakness, and mild insomnia have been reported.

Amitriptyline: Note: Listing includes a few reactions not reported for this drug which have occurred with other pharmacologically similar tricyclic antidepressant drugs and must be considered when amitriptyline is administered. **Cardiovascular:** Hypotension, hypertension; tachycardia; palpitation; myocardial infarction; arrhythmias, heart block; stroke. **CNS and Neuromuscular:** Confusion; disturbed concentration; disorientation; delusions; hallucinations; euphoria; anxiety; restlessness; insomnia; nightmares; numbness, tingling, and pain of the extremities; peripheral neuropathy; incoordination; ataxia; tremors; alteration in EEG patterns; extrapyramidal symptoms; tinnitus; syncope; inappropriate ADH (antidiuretic hormone) secretion. **Anticholinergic:** Blurred vision; disturbance of accommodation; increased intraocular pressure; constipation, paralytic ileus; urinary retention; dilatation of urinary tract. **Skin:** Rash; urticaria, photosensitization; edema of face and tongue. **Hematologic:** Bone marrow depression including agranulocytosis; leukopenia, eosinophilia, thrombocytopenia. **Gastrointestinal:** Nausea; epigastric distress; anorexia, stomatitis; peculiar taste; diarrhea, parotid swelling; bloating. **Liver:** Rarely hepatitis (including altered liver function and jaundice). **Endocrine:** Uterine swelling and gynecomastia in the male; breast enlargement and galactorrhea in the female; increased or decreased libido; elevated or lowered blood sugar levels. **Other:** Dizziness, weakness; fatigue; headache; weight gain; increased perspiration; urinary frequency; mydriasis; drowsiness; alopecia. **Withdrawal Symptoms:** Abrupt cessation after prolonged administration may cause nausea, headache, and malaise. These are not indicative of addiction.

OVERDOSAGE: All patients suspected of having taken an overdose should be admitted to a hospital as soon as possible. Treatment is symptomatic and supportive. However, the intravenous administration of 1-3 mg of physostigmine salicylate is reported to reverse the symptoms of tricyclic antidepressant overdose. Because physostigmine is rapidly metabolized, the dosage of physostigmine should be repeated as required particularly if life-threatening signs (arrhythmias, convulsions, and deep coma) recur or persist after the initial physostigmine. On this basis, in severe overdose with perphenazine and amitriptyline combinations, symptomatic treatment of central anticholinergic overdose with physostigmine salicylate should be considered.

J8TR31 (8)

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PRESIDENT'S NEWSLETTER

NORTH CAROLINA MEDICAL SOCIETY

No. 1

June 1979

This is the first of a series of twelve presidential newsletters that will go out over my signature this year. I hope these will keep you informed about what goes on in medicine both in North Carolina and the nation. This is my way of broadcasting information. I hope they don't hit the circular file.

I have a little headline clipped from a newspaper that I keep scotch taped to the lid of my brief case. It says "Don't turn your back on a politician" which leads me right into the latest innovation and area to be stressed by your Society.

Last year D. E. Ward called for the appointment by the component societies of Vanguard Committees to review the development of health plans by local groups such as Health Departments, HSA's and the like. I intend to pursue this further and would urge you as members of the North Carolina Medical Society to, in turn, urge your presidents to rapidly appoint these committees. I would further request that these committees include Auxiliary members and that they meet on a regular basis. We need to identify the chairmen of the local committees so that we can notify them directly of activity going on in their areas when we discover this at the state level.

The Committee on Health Planning and Development of the State Society is to be the focal point through which a flow of information is generated to and from the Vanguard Committees. It is hoped that staff will be hired to work with this committee over its developmental phase.

I would suggest some liaison between the Vanguard Committees and the Legislative Committee, because the people with whom we will be working are political animals and are quite sensitive about it.

I do not suggest that all planning by Health Departments and HSA's is devious, socialistic, and unacceptable or needs to be opposed for opposition's sake. I do suggest that some of the things they do are unneeded, unnecessary or done for the wrong reasons and at too great an expense in money and resources.

The main points I want to reiterate are (1) get the Auxiliary involved in a major way, (2) do it now, and (3) let us hear about it.

Summer heat has settled in. The AMA Convention is before us and before the teachers' physicals are completed, it will be time for the Committee Conclave at Mid Pines. If you are on a committee, please attend. That's why you were appointed and that's where you personally have a good opportunity to mold Medical Society policy. Recommendations coming from these committee meetings will be considered by the Executive Council and forwarded to the House of Delegates in Pinehurst at the May 1-4, 1980, session.

Another way that you can have influence on the policies of the Society is through the mechanism of resolutions from your local county medical society. These must be in the headquarters office 60 days prior to the first meeting of the House,

but they can be sent in now or anytime. An August resolution has time to gather support, but a February resolve might melt away in the warmth of May.

The May 17th meeting of the Joint Conference Committee was well attended, and we were treated to an evaluation of the present status of the physician supply in the state. Gene Mayer, M.D., showed graphs and figures that showed us to be about three years ahead of figures projected in 1974. The population/physician ratio has improved by 18% in the state as compared to 12% in the nation. Approximately 30% of the medical students are remaining in the state and about 58% of those who received residency training get enough tar on their heels to remain.

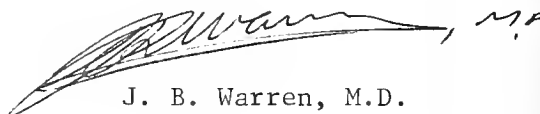
The increase in the primary care physicians is very notable and 38 of 45 family practice residents who are completing their training this year are staying in the state---mostly in smaller communities. This is going to make for an increase in availability of medical care in North Carolina.

I would like to pay a personal tribute to a member of the Society who has given service to us for a long time. He will be remembered by many as the author of the Lymberis Report which almost established the UNC School of Medicine in Charlotte.

I write of Marvin Lymberis whose ability to run the House of Delegates was only surpassed by his ability to recite Creole and French-Canadian jokes. Marvin served from 1976-1978. I had looked forward to working with him on the Executive Council. I shall still seek his advice. Thank you Marvin for a job well done.

In my acceptance remarks, I said I would "listen to your suggestions and criticisms as they are offered". I will welcome your help, which, so far, has been so graciously extended by so many, and I hope it will be said at the end of my term that the Society is better and stronger than at the start.

Sincerely,

A handwritten signature in dark ink, appearing to read "J. B. Warren, M.D.", with a long, sweeping horizontal stroke extending to the right.

J. B. Warren, M.D.
President

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J. B. WARREN, M.D.

Born February 14, 1925, Mount Olive, N.C. Graduate Lenoir High School, Lenoir, N.C., and Duke University, Durham, N.C., M.D., 1951, Duke University School of Medicine. Intern Rex Hospital, Raleigh, N.C. Family practice, Oriental, N.C., 1952-1960; New Bern, N.C., 1960- ; staff physician, Craven County Hospital, New Bern, N.C.

Member American Academy of Family Practice and the American Medical Association. Past president Pamlico County Medical Society; delegate to North Carolina Medical Society, Pamlico County Medical Society; past secretary, vice-president and president Craven-Jones-Pamlico Medical Society; delegate, Craven-Jones-Pamlico Medical Society; vice-councilor District II; councilor District II; 1st vice-president, North Carolina Medical Society, 1976-1977; board of directors, North Carolina Medical Liability Mutual Insurance Company; vice-president of North Carolina Peer Review Foundation, board of directors and executive committee; president of Northeastern Professional Standards Review Organization (PSRO); board of directors Northeastern PSRO; appointed to the North Carolina State PSRO council by the North Carolina Medical Society; president-elect North Carolina Medical Society, 1978-1979.

Wife, Virginia. Children, Edward Shaw Warren, M.D., Bowman Gray School of Medicine, 1975; Becky Warren Hardy, Duke University Nursing School, 1975; Marjorie Warren, graduate Meredith College, 1978.

Medicine has a partnership with government, partly voluntary and partly forced upon us. I feel that our relationship with government should be helpful, friendly, courteous and skeptical. We should continue to increase our involvement with government on local, state and national levels through a close association with our elected representatives which should start at campaign time.

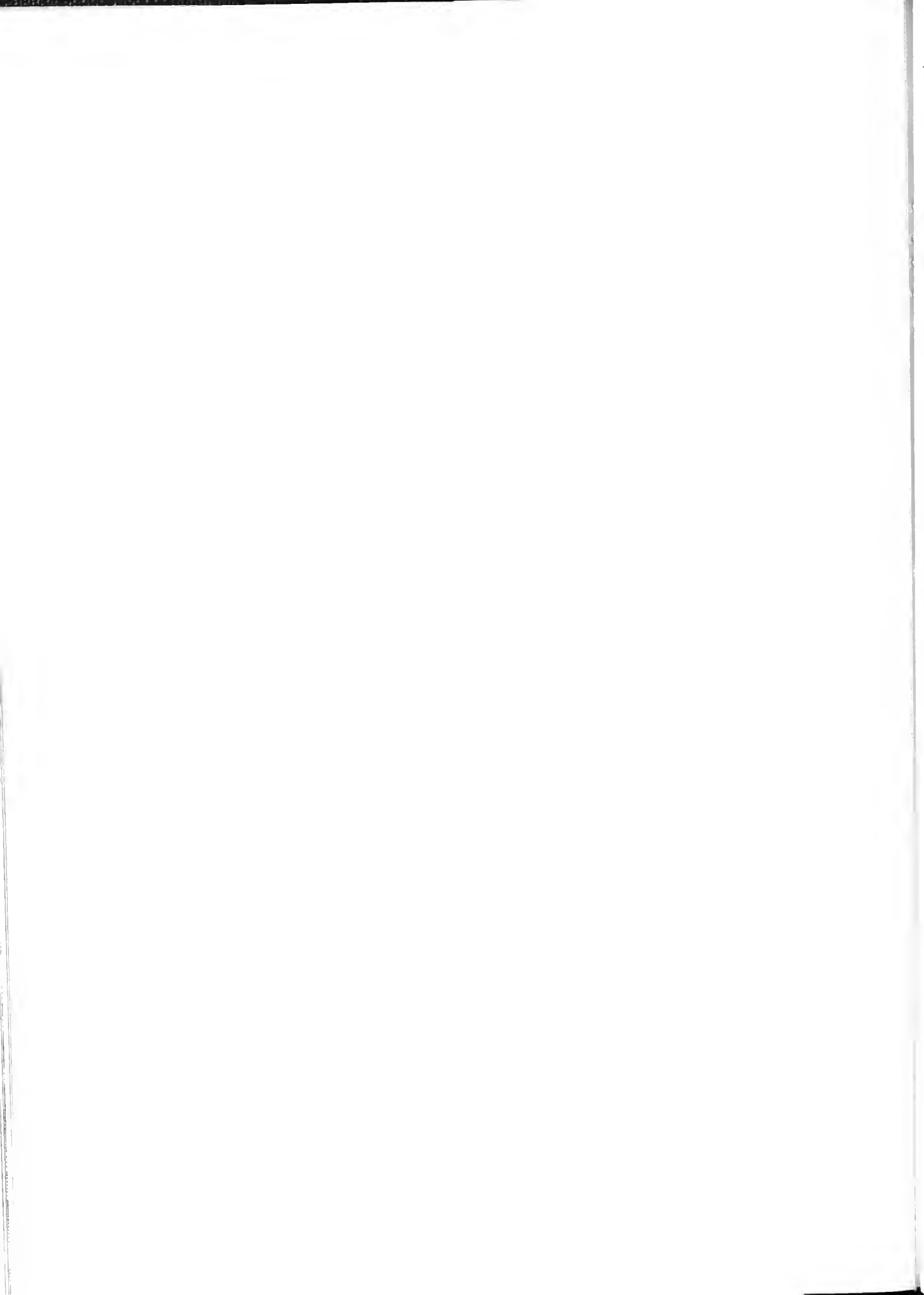
I would strengthen the North Carolina Medical Society and continue to promote the solidarity that was started a few years ago between this organization and the various specialty groups. We cannot afford the luxury of the balkanization of our ranks.

I pledge to you that I will do my best to continue the good work of my predecessors which has been based on the solid foundation of mutual respect and high regard that each of us has for our fellow physicians. I will listen to your suggestions and criticisms as they are offered. I will welcome your help which, so far, has been so graciously extended by so many, and I hope it will be said at the end of my term that the Society is better and stronger than at the start.

Excerpts from Dr. Warren's inaugural remarks, Pinehurst, N.C., May 5, 1979.



J. B. Warren, M.D.



SPECIAL ARTICLE



Medical Practice and Medical Education in North Carolina: A 400-Year Overview

William W. McLendon, M.D.

INTRODUCTION

MY concept of medical history and my goals for this presentation are best stated in the words of Dr. James Gergory Mumford in his review of the first edition of Garrison's classic work *The Introduction to the History of Medicine*:

The story of medicine is vital and inspiring no matter from which angle you approach it.

It is closely interwoven with the story of peoples, of civilizations, and of the human mind.

It deals with great men and small men — with philosophers and scientists, with monarchs and ecclesiastics, with scoundrels and humbugs.

On the one hand, it springs from folkways, legends, credulity, and superstition;

On the other from intelligence, culture, labor, valor and truth. And always it seems to reflect the character and progress of the people with whom for the time it is lodged — be they reactionary or be

they progressive. Whatever else it is, the history of medicine is never dull.

As an introduction to the two days of celebration of the 100th anniversary of the establishment of medical education at the University of North Carolina at Chapel Hill, I will attempt to give you in words and pictures a panoramic view of medical practice and medical education in North Carolina in the almost four centuries from Sir Walter Raleigh's first attempt to establish a colony in 1585, until today. I will obviously slight many important events and persons in such an overview; nor will I be able to give proper credit to the many sources and persons making this review possible. In the interest of time, I am sure you will understand the necessity for these omissions.

THE LAND AND ITS PEOPLES

In order to understand the development of medicine or any other aspect of our civilization, it is necessary first to understand the nature of the land and its people. North Carolina is a state characterized by a wide variety of land formations: the flat, sandy coastal plains to the east, the rolling piedmont, and the western mountain ranges which include the highest mountain east of

the Rockies. The character of North Carolina was shaped to a large extent by this geography. In spite of its long coast line, only Wilmington developed as a significant port in the early years, probably because of the treacherous ocean off Cape Hatteras and the swampy land along much of the coastline. In contrast, both Norfolk and Charleston thrived as ports to the north and south. The State was isolated from its neighbors to the west until recent years by mountain ranges.

The people of North Carolina are of three racial origins: Indians, blacks and whites. The original natives of North Carolina were, of course, the Indians. I regret that time and my lack of knowledge of Indian medicine prevent our covering this fascinating chapter in the history of North Carolina. Blacks came to the state with the early settlements and by 1733 were estimated to comprise one-sixth of the total population and by 1790 one-fourth.

European immigrants, slowly proceeded from the coastal regions along the river basins to the piedmont with some immigration to the state from Pennsylvania and the northern colonies through Virginia. Because of the difficulties with transportation, it has only been in

Professor of Pathology and Chairman, Department of Hospital Laboratories, University of North Carolina, School of Medicine, Chapel Hill, N.C. 27514
Presented at the University of North Carolina at Chapel Hill School of Medicine Centennial Symposia, Feb. 9, 1979.

the last century or so that the far western portions of the state have been settled and developed.

The national stocks settling eastern North Carolina were predominantly English, with Scotch-Irish in the piedmont and mountain regions, and a large group of highland Scotch in the southeastern part of the state. In addition there were scattered settlements of continental European immigrants, the most notable being the Moravian settlements around Salem.

Because of the nature of the settlers and the difficulties of transportation and communication in the early years, North Carolinians tended to be hard-working, conservative, rural folk who practiced the state motto of *Esse Quam Videri* ("To be, rather than to seem"). Farms and communities were small. Large plantations and metropolitan areas did not develop to the extent they did for our neighbors to the north and the south. Although cotton was king for many years, after the Civil War tobacco and tobacco products became one of the primary products of the state and it has had many influences on the development of medical practice and education, both in transitory and lasting ways. An example of the former is *Clingman's Tobacco Remedies* which was produced after the Civil War by the *Clingman Tobacco Cure Company* located in Durham. It was modestly hailed as "the greatest medical discovery of the Age," and was "prepared according to the formula of ex-U.S. Senator and Confederate General T. L. *Clingman*." The tobacco cake was to be put in hot water and then the leaves were to be separated and placed wet on the skin or wound.

One of the more profound and lasting effects of tobacco on medicine in North Carolina, the nation and the world, began after the Civil War with the development of the tobacco manufacturing facilities in Durham. This led to the development of the Duke fortune, which in turn led to the establishment of the Duke Endowment, of Duke University, and the Duke Medical Center. Textiles also have been a major industry in North Carolina. An ex-

ample is the Proximity Plant of the Cone Mills in Greensboro, North Carolina, so named because of its proximity to the cotton fields of its day. The Moses Cone fortune from this endeavor led to the establishment of an endowment in 1912 and the opening in 1953 of The Moses H. Cone Memorial Hospital, which now serves as not only a modern community hospital, but as an Area Health Education Center and affiliated teaching institution for the medical school at Chapel Hill. In completeness and in honesty, I must also add that the various agricultural and industrial endeavors in this state, as elsewhere, have as well contributed to disease and disability in our population, but time does not permit us to dwell on that aspect today.

In recent decades the industry of the state has diversified with plants manufacturing a wide variety of products scattered throughout the state. The Research Triangle, with its surrounding educational institutions and medical centers, has attracted high technology industry, industrial research concerns, and governmental institutes such as the National Institute of Environmental Health Sciences and the Environmental Protection Agency. The magnitude of the change in the people and the character of the daily work of North Carolinians during the last century is perhaps best symbolized by the recently established National Humanities Center at the Research Triangle Park — this in a state which less than a century ago was labeled as "a literary desert where the only culture was agriculture"!

MEDICINE FROM THE EARLY SETTLEMENTS THROUGH THE CIVIL WAR

In the almost 300 years between the first attempt at colonization in North Carolina through the Civil War, medical practice and medical education in North Carolina, as in the other colonies and early states, was a patchwork of uncoordinated and unregulated activity with the providers of medical care ranging from the numerous quacks to a few well-trained physicians.

The first European physician living and practicing in America came with Sir Walter Raleigh's colony to Roanoke Island in 1585. It was reported that only 4 of 108 colonists (all men) died the first year there; and in words which are strangely reminiscent of many more modern medical and surgical reports I have read, the report stated that all who died were "feeble, weakly, and sick on leaving home"!

Typical of the well-educated, European trained physicians who settled in North Carolina during the colonial period was Dr. Armand J. De Rossett. He was born in France, educated in Switzerland and settled in Wilmington in the 1730s. He was the first of a long-line of outstanding physicians and leaders in eastern North Carolina.

Other physicians obtained their training by "reading medicine" under one of their predecessors or by attending so-called medical schools such as the one located at Jamestown, North Carolina, in the early part of the 19th century. Other North Carolinians went out of the state for their medical education with Philadelphia being the favored site. For example, of the first 172 members joining the Medical Society of the State of North Carolina in the mid-19th century, 91 had attended the University of Pennsylvania and 21 had attended the Jefferson Medical College. Six had attended the University of New York, eight were graduates of the Charleston (South Carolina) Medical College, and the remaining were graduates of 10 other medical schools.

Because of the shortage of well-trained physicians and the lack of adequate transportation, however, do-it-yourself home medical books were popular in the colonies and in the early years of the Republic. One of the early books published in North Carolina was such a book published by Thomas Johnson in Salisbury in 1798 and entitled, *Every Man his Own Doctor; The Poor Man's Family Physician*. Another early medical book was published in Halifax, North Carolina, in 1801 and was entitled, *Domestic Medicine: A Treatise on*

the Prevention and Cure of Diseases by Regimen and Simple Medicines. This represented a reprint of the 17th issue of a publication by William Buchan, M.D., Fellow of the Royal College of Physicians, at Edinburgh. A similar book, published in 1845 in Spartanburg, South Carolina, was written by Alfred M. Folger of Stokes County, North Carolina, who was stated to formerly have been an attending physician in the Cherokee Hospital of western North Carolina. This volume was entitled, *The Family Physician, Being a Domestic Medical Work Written in Plain Style*. . . . The index has many topics which are timely today, such as asthma, aneurysm, amenorrhea, abortion-miscarriage, and acute hepatitis. Other entries are more dated and less familiar to the modern student or physician such as calomel, Indian physic, astringent for dysentery. The book begins with a chapter "On Hygiene Air" which is of interest in view of our recent rediscovery of "the necessity of pure air to the health of an individual."

In 1776, the year in which the colonies declared their independence from England, the Constitution for North Carolina was drafted by a committee meeting in Halifax. It came at a time when the colonies faced a prolonged war with the mother country of England. Coming from a relatively poor and isolated colony, it is a remarkable tribute to the foresight of these men that Article 41 of the Constitution stated that "all useful learning shall be duly encouraged and promoted in one or more universities." As a result North Carolina became the first state in the new nation to establish a university, which materialized with the laying of the cornerstone for Old East on October 12, 1793, and the arrival on February 12, 1795, of the first student, Hinton James, who walked to Chapel Hill from Wilmington to enroll.

During the Revolutionary War, North Carolina was the site of some early skirmishes, such as that at Moore's Creek Bridge. As the war drew to an end, Cornwallis marched through the state with battles at

King's Mountain and at Guilford Courthouse. After moving his troops to Wilmington, Cornwallis marched to Yorktown where he surrendered in October 1781 to George Washington; the end of the Revolutionary War came two years later after further heavy fighting in the south and west and prolonged treaty negotiations.

North Carolina was likewise spared major battles during most of the Civil War. The port of Wilmington was blocked by the federal fleet and the blockade runners provided a vital lifeline to the Confederacy and were the heroes of their day. The end for the Confederacy was imminent in 1865 with the fall of Fort Fisher and the resultant severing of this major supply line to the Confederacy. Sherman's troops had defeated the Confederate troops at the Battle of Bentonville and had marched on to Raleigh at the time the surrender was negotiated on April 18, 1865, at Bennett's farmhouse in Durham.

The economic and political chaos following the conclusion of the Civil War led to a temporary closing of the university in 1871, but through the efforts of a number of supporters, the university was opened again in 1875 and has continued to operate without interruption since that time.

DEVELOPMENT OF ORGANIZED MEDICINE AND EARLY ATTEMPTS AT MEDICAL EDUCATION: 1849-1910

During the period from the mid-19th century through the first decade of the 20th century, the state saw the development of organized medicine and several formal attempts at medical education to provide physicians for the state.

An abortive attempt to form a state medical society was made in 1799 but this society existed only a few years, probably because of the difficulties of transportation and communication at the time.

In 1847 the American Medical Association was organized and two years later a state medical convention was held in Raleigh to adopt a constitution and medical ethics for the newly organized Medical Soci-

ety of the State of North Carolina. The need for the medical society was noted by the organizing committee which appealed for the cooperation of other doctors, "for every educated physician in the state acknowledges with deepest regret that under the combined operations of corrupt influences our honorable profession has been injured in its standing — our titles are assumed and our privileges claimed by charlatans of every cast." Article II of the first Constitution stated: "The objects of this society shall be advancement of medical knowledge, the elevation of professional character, and the promotion of all measures of a professional nature that are adaptable to the relief of suffering humanity, and to improve the health and protect the lives of the community."

County societies were organized shortly thereafter. As shown in a broadside published in Salisbury in 1854 by the Rowan County Medical Society, one of the early tasks of some was to print a tariff of fees in order to establish a uniform rate of charges among the profession, "whenever the pecuniary circumstances of the patient are not such as to clearly forbid it."

Many unsuccessful attempts had been made during the first half of the 19th century to pass laws to make it illegal to practice medicine in the state without a license granted by a Board of Examiners. Members of the new medical society were finally successful in having the state legislature pass a bill which created a Board of Medical Examiners in 1859. The need for such a board and the public's faith in quacks and faith healers was vividly portrayed several years previously at a medical society meeting: "Many a man who would feel deeply insulted were you to propose to him to take his watch to the blacksmith shop to be repaired, will unhesitatingly commit his own more complicated and delicate organism to the hands of a blundering pretender, whose ignorance of its nature and operations is far greater and whose mistakes may never be repaired."

It is of interest that at the first annual meeting of the Medical Soci-

ety of North Carolina in Raleigh in 1850 a committee was appointed to report on the propriety of establishing a medical school. The report of the committee, presented at the third annual meeting in Wilmington in 1852, "came to the conclusion that such an establishment within the state at this time would be neither expedient nor desirable." Their decision was based on the fact that no city within the state was of sufficient population to afford the necessary material for the study of anatomy. Furthermore, without endowment and a large student body, it would be impossible to attract distinguished medical men of the state to abandon their extensive and profitable practices to teach in such a medical school. The committee concluded "that a few, good, well-endowed, well supported medical colleges, independent of favor, will effect far more real and substantial good for the science of medicine than an unlimitable number of such as your society have now the means of establishing."

Probably as a result of this farsighted report, no efforts were made to establish a medical school for the state until 1867 when the Edenborough Medical College was chartered by the General Assembly of the State of North Carolina. It was located about one mile south of the present town of Raeford in a sparsely settled area where farming was the principal occupation. At the time, the state was predominantly rural, about 97% of its one million population living on farms. Dr. Hector McLean, the owner and principal teacher, was apparently a talented and successful physician as well as a wealthy farmer. No mention of the college is made in the *Transactions* of the State Medical Society during its first nine years of operation, but at a meeting held in 1876, a committee was appointed to "inquire into the irregularities of medical colleges in North Carolina."

At the next meeting of the medical society, held in Salem in 1877, the committee reported that "while they would be glad to furnish to the society some pleasant information in regard to medical education in

our state . . . they have to confess their mortification in reporting to the contrary. The facts, obtained by correspondents and otherwise, show that there is situated in the county of Robeson, a so-called medical college, chartered by the legislature of this state, in February, 1867. . . . This charter is full and liberal and upon its face anticipated a first class institution." After going on to state that Dr. McLean was the first and only professor including being the demonstrator of anatomy (without apparently ever having dissected a human subject) and the fact that no regard was paid to age or previous preparation of the entering students, the committee went on to state: "Though that practice may be technically legal, the committee are unequivocal in their opinion that this state of things is a blight upon our profession, a burlesque upon science, and a curse to humanity and would recommend that the State Medical Society take some steps at its present session to suppress this so-called Medical Institution, and would suggest that the Legislature be requested to rescind its charter." No further action was apparently taken for the death of Dr. McLean in 1877 put an end to the college.

In February of 1879 the School of Medicine at the University of North Carolina at Chapel Hill was established by action of the Board of Trustees of the University of North Carolina. Dr. Thomas W. Harris was appointed professor of anatomy and dean of the school, although no funds were provided by the university for support. Dr. Harris was a graduate of the university, a major in the Confederate Army, and obtained his M.D. degree at the University of New York. He had two years of postgraduate training in Paris before returning to the United States to establish his practice and the medical school in Chapel Hill. The medical school continued under his direction until he resigned in 1885 to move to Durham and devote his time fully to medical practice. The School of Medicine at Chapel Hill was temporarily discontinued until 1890 when Dr. Richard N. Whitehead

became professor of anatomy and pathology and dean of the school.

In what was to be the first of several abortive attempts to begin a four-year school for the state, in 1902 the university established an M.D.-granting medical department at Raleigh with Dr. Hubert A. Royster, an outstanding young surgeon, as the dean. One of the earliest, and its most distinguished graduate, was Dr. William DeBerniere MacNider who established the department of pharmacology here at Chapel Hill and who became internationally recognized for his research in renal diseases and aging.

In 1881, the Leonard Medical School of Shaw University was established in Raleigh as a result of a gift of money from a Massachusetts benefactor and the donation of a plot of land by the state legislature. For its time, it was relatively unique in having its own small teaching hospital and in requiring a compulsory four-year program. By the time the professional schools of Shaw University were closed in 1918 for financial reasons, the school had graduated 438 black physicians and 131 black pharmacists. This made a major contribution to health care in the state when few opportunities existed for the black student desiring a career in medicine or pharmacy.

The North Carolina Medical College was established at Davidson College in 1886 as a basic science school by Dr. Paul B. Barringer, who later went to the University of Virginia as dean of their school of medicine. The Medical College moved to Charlotte in 1907 where the M.D. degree was offered until its merger with the Medical College of Virginia in 1915. Dr. Mary Martin Sloop, one of North Carolina's most famous women physicians, was a student of the North Carolina Medical College. She completed her medical education in Philadelphia, married a physician, and then moved to western North Carolina where they established a well-known church, hospital and school at Crossnore.

In the meantime, the School of Medicine of Wake Forest College was established in 1902 at the origi-

nal site of the Wake Forest campus in Wake County near Raleigh. Thus at the time of the Report by Abraham Flexner for the Carnegie Foundation on *Medical Education in the United States and Canada*, North Carolina had four medical schools: the basic science schools at Chapel Hill and at Wake Forest and the M.D. degree-granting schools at Shaw University and in Charlotte. The M.D. degree-granting medical department of the University of Raleigh is not listed in the report since the university trustees had discontinued the school in 1910 because resources were not available to upgrade the school to the standards recommended by Dr. Flexner. As noted from the listing of the schools in the Flexner Report, Chapel Hill in 1910 had a population of a little over 1,000 and the budget for the medical school came to \$12,000 annually with an income from fees of \$6,500. The report on the facilities for both the UNC and the Wake Forest basic science departments were generally positive, while severe criticism was directed at the facilities of the North Carolina Medical College in Charlotte. The Flexner Report recommended the discontinuing a large number of medical schools throughout the United States with North Carolina having only the two basic science schools. As a result of the report and financial constraints, North Carolina was left without a degree-granting medical school for over a decade in the 1920s.

MEDICAL PRACTICE AND EDUCATION FROM THE FLEXNER REPORT THROUGH WORLD WAR II

Self-medications were very much in use during the early part of this century in North Carolina and many were made here in the state. Several years ago, I had the opportunity to enter a house in eastern North Carolina belonging in my wife's family which had been closed from 1918 until the early 1970s. Because of the influenza epidemic of 1918 and the death of one of the men in the family, the widow and children moved into town leaving behind much fur-

niture and many personal effects. In the master bedroom, undisturbed for over 50 years, was a collection of dozens of medications, giving insight into home medications in the early years of this century in a rural setting in North Carolina. Prominent among the medications was a large bottle of pure castor oil, bottled by William H. Green and Company, wholesale druggists of Wilmington, North Carolina, as well as a bottle of 500 tablets of calomel and soda, produced by Eli Lilly and Company. One can well imagine the discomfort of many who took their spring tonic of castor oil and calomel! Also present was a bottle of 100 compressed tablets of Warburg Tincture, each tablet contained 1/64 grain of opium, apparently used for malarial treatment. Several bottles of Vick's Vapo-Rub produced in Greensboro were present along with an extinct medication, "Mother's Joy Salve", manufactured by the Goose Grease Company, also of Greensboro. The user of Mother's Joy was directed to "saturate flannel large enough to cover upper part of chest and fasten to garments" for croup and to "rub half box on chest and throat then take flannel and spread over same" for pneumonia. "Better results can be obtained by applying hot irons to flannel." The preparation was also stated to be for "congestion of lungs, catarrh, piles, hay fever, splotches on face, chapped hands, lips, etc." It was confidently stated that it "will not injure the most delicate skin." My favorite medication in the collection is the "Burduco Liver Powder, The Great Southern Remedy for all Liver Troubles." It was made for Burwell and Dunn Company, wholesale druggists in Charlotte, and like Vick's and Mother's Joy, was priced at 25¢. On the top of the container was the statement: "Makes the Liver LIVE and teaches it to ACT." In spite of the profusion of such remedies and the availability of the country doctor, life could still be hard and the available medical science was limited. Although many members of the family in question lived to a ripe old age, infants, children and young adults were struck down by infec-

tious diseases which today would not be a hazard.

The second attempt to establish a four-year medical school for the State was made in the early 1920s as a joint effort of the University of North Carolina, the Methodist-supported Trinity College in Durham and the Watts Hospital in Durham with promised support of \$3,000,000 from the Rockefeller Foundation. This effort failed because of lack of agreement on the location of the school (that is, Charlotte, Chapel Hill or Durham) and because of widespread concern about the implication of an affiliation of church and state.

The most far-reaching development in medical education in North Carolina during the 1920s came with the formation by James Buchanan Duke of the Duke Endowment in 1924. Beneficiaries of the endowment included orphanages and hospitals in North and South Carolina, the Methodist Church, Davidson College, Furman University, and Johnson C. Smith University in Charlotte. The largest, single benefactor of the endowment was Trinity College, the funds conditional upon the change in the name to Duke University, in honor of Washington Duke, Mr. Duke's father. Duke envisioned an undergraduate college with graduate schools of religion, education, chemistry, law, business administration, arts and sciences, engineering and medicine. Duke died of pernicious anemia in 1925 before the medical school was completed but after the decision was made to proceed with the medical center. Wilbur Davidson, a pediatrician and assistant dean of the Johns Hopkins University School of Medicine, was recruited as dean in 1927 by Duke University President William Preston Few. The Duke Hospital opened in July 1930 and the Duke University Medical School was formally dedicated in ceremonies on October 20, 1931.

Although the 1930s were the years of the depression, they were years of great ferment and eventual progress for medical education in North Carolina. Because of the depression and the apparent surplus of

doctors, the AMA decided to reduce the number of doctors by closing some of the smaller and weaker medical schools, particularly the two-year basic science schools (of which there were 10 at the time, including those at the University of North Carolina and Wake Forest). The Council on Medical Education of the AMA in 1935 stated "that it would no longer recognize two-year medical schools." This action was rescinded later in the year after it was vigorously opposed by the Association of American Medical Colleges and others.

During the depression years of the 1930s, attempts continued in North Carolina to expand the two-year schools at Wake Forest and Chapel Hill and a Medical School Commission was appointed by Governor Hoey to study the need for four-year schools. It became apparent that the state would not have enough money in 1939 to finance an expansion of the Chapel Hill school to a four-year school. The Medical School Commission became aware of the fact that private funds were available to support a medical school should the school be built in Winston-Salem. A medical school outside of Chapel Hill was not felt to be a wise decision and the funds were not accepted for expansion of the university medical school. Wake Forest College, after further negotiations, did agree to accept the Bowman Gray bequest of approximately \$600,000 on the condition that the medical school be moved to Winston Salem and developed as a four-year medical school in conjunction with the existing North Carolina Baptist Hospital. The School of Medicine opened in Winston Salem in 1941 and has continued there with significant advances in facilities and in faculty since that time. In 1956, the entire Wake Forest College moved to Winston Salem and in 1967 became Wake Forest University.

In the meantime, the University of North Carolina School of Medicine had moved in 1912 to Caldwell Hall, its first permanent home on the Chapel Hill campus. During the ensuing several decades Drs. Manning, Mangum, Bullitt, MacNider

and their associates taught the first two years of medicine to many young North Carolinians who went on to other schools for their M.D. degree. Dr. Manning served as dean from 1905-1933; Dr. Mangum from 1933-1937; and Dr. MacNider from 1937-1940. In 1939, the first step toward the development of the present medical center was made with the construction of a new building to house the School of Medicine and Public Health, the building now known as MacNider Hall.

THE GOOD HEALTH MOVEMENT OF THE 1940s AND THE POST WAR DEVELOPMENT OF HOSPITALS AND MEDICAL CENTERS

During the dark days of World War II, medical and political leaders in the state recognized the need for better medical facilities and more physicians for the state of North Carolina. The need for better medical care had been forcibly impressed on the minds of the people of the state by the shockingly high rejection rate for military service for North Carolina's young men during World War II because of physical disabilities. As a result, Governor Broughton in 1944 appointed a North Carolina Hospital and Medical Care Commission composed of distinguished leaders to study the problem. It was the finding of this group that North Carolina was then the 11th most populated state in the union but was 42nd in number of hospital beds and 45th in the number of doctors per 1,000 population. They recommended a program of "more doctors, more hospitals, and more insurance." A keystone of the program was the expansion of the two-year medical school at the university into a four-year medical school with a central hospital of 600 beds or more.

Although many persons were responsible for making these dreams become the reality that we know today, Walter Reece Berryhill, dean of medicine from 1941 until 1964, was the driving force. Through his efforts and those of many supporters of the university and its medical school, the decision was finally made to locate the university hos-

pital here at Chapel Hill. Appropriations were obtained and the buildings begun. The North Carolina Memorial Hospital opened its doors to patients in September of 1952 and the medical class of 1954, which is celebrating its 25th reunion at this meeting, was the first to graduate with the M.D. degree from the Chapel Hill campus. The medical center with its five health schools of dentistry, medicine, nursing, pharmacy, and public health, were finally accommodated in buildings completed during the 1950s and early '60s. With the projected marked increase in student body and faculty, a second phase of growth resulted in the addition of Berryhill Hall, the Preclinical Science Building, the Hospital Bedtower, the Clinical Science Building, and the Faculty Laboratory and Office Building. Dr. Isaac Taylor, dean from 1964 to 1971, provided the leadership which made possible most of this expansion.

Parallel with the post-war developments at Chapel Hill was a tremendous expansion of hospital and health centers throughout the 100 counties of the state, financed in great part by the infusion of construction funds through the Hill-Burton Act. Through the efforts of Reece Berryhill, Glen Wilson and many others, and with the assistance of federal and state funding, this development of health facilities became coordinated through the gradual establishment of nine Area Health Education Centers which now span the entire state. The four medical schools in the state cooperate in providing direction for this system of health education, which has achieved national recognition for its comprehensive and innovative nature and for its success in attracting physicians to practice throughout the state.

The concept of a second state medical school, located at East Carolina University, was accepted by the General Assembly in a series of actions and appropriations from 1965 through the present. Medical education at ECU was initiated in 1972 as a one-year program with the students transferring into the second year of the program at Chapel

Hill. The one-year program was discontinued in 1975 when efforts were begun to develop the full four-year medical school at East Carolina University. The first class in the new four-year program was admitted in 1977 and will graduate in 1981. In order to provide adequate medical school and clinical facilities, the Pitt Memorial Hospital began construction of a new medical center which opened in 1977. The medical school facilities are being developed on the same site with state appropriations.

Duke Medical Center is also expanding its facilities with the construction of a new hospital which is due to open within the year.

CONCLUSION

In summary, the story of medicine in North Carolina has been one of contrasts: reaction and idealism, quackery and scientific accomplishments, greed and generosity. As I have made this study I am once again impressed with the patience, determination and hard work which is required to make a truly lasting and meaningful contribution to medical education and medical

care. This was exemplified by the three abortive efforts over a half century to establish a degree-granting four-year medical school for the University of North Carolina before Dr. Berryhill's dream was finally realized in the early 1950s. Similarly, President Few's efforts to establish a medical school, first at Trinity College and then at Duke University, spanned several decades and was finally made possible through the Duke Endowment and the hard work of a young dean from The Johns Hopkins, Wilbur Davison. As we look at these men and their work, we are again reminded of the quotation: "We can see so far because we are standing on the shoulders of giants."

Today it is easy to become depressed about one's career and profession in a time when resources are shrinking, government controls are increasing, and the public again seems to have more faith in fads and quacks than in medicine. A study such as we have shared this morning reveals that these are not new, nor greater, problems than were faced by our predecessors. As this institution and the citizens of this

state together begin their second century of medical education based at the state's university, I for one believe it is a time for gratitude for the past and enthusiasm for the future.

Further, in a state which now has four established and developing medical schools cooperating in providing a unique state-wide network of Area Health Education Centers, and in a state which has in the Research Triangle Park a working model of cooperation for the public good between outstanding universities, industry, and local and federal government, I would like to suggest that we approach this second century with the words of John Gardner in mind: "We are faced with innumerable golden opportunities cleverly disguised as insoluble problems."

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Twenty patients with malignant hypertension and blood urea nitrogen concentration of 50 mg per 100 ml or higher were selected to determine whether the rate could be improved by aggressive utilization of hypotensive drugs and careful attention to fluid and electrolyte metabolism, as well as to evaluate the validity of the impression that reduction of blood pressure in such patients is accompanied by further rapidly progressive deterioration of renal function.

Of the 11 (55%) who lived for one year, 9 (45%) are still alive. The follow-up period is approaching four years in two, between two and three years in two and between one and two years in five.

In the surviving patients, the glomerular filtration rate has decreased slightly in one, remained unchanged in three and increased an average of 15 ml per minute in five.

Reduction of blood pressure in patients with malignant hypertension complicated by renal insufficiency does not necessarily result in deterioration of renal function and may result in improved survival rates. —James W. Woods and William B. Blythe, Management of Malignant Hypertension Complicated by Renal Insufficiency. *N Engl J Med* 277:57-61, 1967. (Reproduced with permission.)

A Role for the Community Hospital in the Education of the Internist

William B. Herring, M.D.

ABSTRACT Selected community hospitals make important contributions to medical education at all levels and are integral components of our system of medical education. Affiliations between community hospitals and universities provide the structure for teaching programs that help meet the university's needs and serve the community hospital by creating a learning environment that enhances patient care. Properly exploited through a system such as North Carolina's AHEC program, these affiliations could permit extension of continuing education even into small hospitals and private practices. The numerous and inevitable problems are subject to resolution if the relationship between the institutions is characterized by mutual respect and trust and if basic academic principles are honored.

ELEVEN years ago I moved from Chapel Hill to Greensboro to implement an affiliation agreement between the University of North Carolina School of Medicine and the Moses H. Cone Memorial Hospital. The purposes of this affiliation were threefold: (1) to af-

ford medical students a well-supervised experience, as an integral part of their curriculum, in a community setting similar to that in which most of them would eventually live and practice; (2) to develop residency training programs in the primary care specialties; and (3) to contribute to continuing education of the hospital staff. My esteemed colleague, Dr. Martha Sharpless, and I, with the support and assistance of the medical staff of the hospital, developed internal medicine and pediatric teaching services and a residency in family medicine. Later, residencies in internal medicine and pediatrics were added. In 1972, the North Carolina Area Health Education Centers Program was funded by the Department of Health, Education and Welfare. In 1974 it was funded by the North Carolina General Assembly, and that same year Moses Cone Hospital became an AHEC. The purposes of our affiliation did not change, but our purview was greatly extended, as we assumed responsibility for health manpower development and continuing education in a six-county area that includes 10 other community hospitals. North Carolina is divided into nine AHEC regions, variously constituted but with similar goals. One of these is administered by the Bowman Gray School of Medicine, and another by Duke University. One of the goals of AHEC was to establish 300 new

primary care residency positions in North Carolina. One hundred thirty-two of these are in community hospitals, and 80 are in internal medicine. Whereas Dr. Sharpless and I were the first fulltime members of the UNC faculty to be based in a community hospital, there are now 78 fulltime or parttime salaried "AHEC" faculty; 12 are in internal medicine.

This address is drawn from my experiences of these 11 years, during which I have participated in the development of the affiliation between UNC and Moses Cone Hospital and subsequently as a member of the statewide AHEC program. The opinions expressed are my own and do not necessarily reflect the position of the university, the hospital, or the AHEC program. While my comments are directed at the education of the general internist, much of what I have to say is also relevant to general pediatrics and family medicine which, with internal medicine, are considered to be the primary care specialties. The teaching community hospital, such as Moses Cone, may make limited contributions to training in the medical and surgical subspecialties, especially as the practice of these highly specialized branches of medicine becomes increasingly decentralized, but its mission in these areas is minor and likely to remain so. I will concentrate, therefore, on the general internist at the levels of

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his undergraduate, graduate and continuing medical education.

During the past decade the attention of the nation has been focused on the primary care gap in our health care system. With strong federal support from several pieces of legislation, including the Comprehensive Health Manpower Training Act of 1971, most medical schools expanded their enrollments and a number of new schools were established. Between 1965 and 1977 the number of medical schools increased from 88 to 116 and the number of medical graduates from 7,574 to nearly 14,000. The number of graduates is expected to reach 16,500 by 1984.¹ Thirty-six percent of medical graduates take a full first year of training in internal medicine, a proportion that has remained constant for a number of years¹ in spite of the establishment of 348 family practice programs since 1969. An additional third of medical graduates spend an average of four months each on an internal medicine service. There are now more than 15,000 residents training in 418 internal medicine programs; if these patterns continue there will be about 550 additional residents training in internal medicine by the mid-1980s.¹ Thus, since 1965, the burden of teaching internal medicine at the undergraduate and graduate levels has doubled, and there is a substantially increased effort in continuing medical education. While the resources of primary medical school hospitals and departments of medicine have clearly expanded, it appears certain that they would be unable to manage this load without substantial reliance on other hospitals and part-time or volunteer faculty. In 1976-1977, 74% of the residency programs, accommodating 54% of the residents, were based in hospitals other than primary medical school hospitals.¹ The use of community hospitals for training in internal medicine, therefore, is firmly established and seems likely to increase. Dr. David Rogers has proposed that urban academic medical centers, having captured about all the financial resources this country can afford, prepare to concentrate on improv-

ing without becoming larger, while developing more cooperative links with other institutions.²

The community hospital seems a logical, even attractive, complement to the primary university teaching hospital for several reasons:

1. It offers a large, *unselected* patient population that differs qualitatively from that of the referral center. The perceptions of students and residents of what constitutes private practice may be significantly biased by the largely tertiary-care patients encountered in the referral center. Exposure of the medical student to the community hospital's patient population, preferably early in his career, may give him a more realistic view of medical practice.

2. Community hospitals serve mainly those who live in the community and support it. This proximity of patients to their main source of medical care creates the opportunity for a continuing relationship between the patient and the trainee who may serve as his primary physician for as long as three years. While such follow-up is valuable even for self-limited illnesses, it is especially important in chronic diseases. To observe the evolution of a chronic disease in a single patient over three years may be more instructive than thin sections of the same disease in multiple patients.

3. Where able and interested physicians are to be found on community hospital staffs, the medical school may be able to expand greatly its clinical faculty at minimal cost, and at no loss of effectiveness if care in selection is used. Moreover, whereas the student or resident who is a potential private practitioner (either of primary care or a subspecialty) may have difficulty identifying with the typical faculty member, in the community hospital he is surrounded by role models. My Medical Teaching Service at the Moses Cone Hospital includes 56 active clinical faculty, selected from a medical service staff of 108. While their contributions to teaching vary, they collectively represent about four fulltime equivalents but afford the additional advantage of representation of all the

subspecialties of internal medicine, plus dermatology, neurology and psychiatry.

4. The continuity between resident and patient and the participation of private practitioners should facilitate the development within the community hospital's outpatient department of a model office practice for residents and faculty: such a model has certain hypothetical advantages over the traditional medical clinic for training the general internist. In our medical clinic at the Moses Cone Hospital we have attempted to create the physical surroundings and organization that simulate a private group practice of internal medicine. Each resident has his own office hours and group of patients whom he serves as personal physician. Faculty provide direct supervision and function as role models by carrying small individual practices concurrently, which is also necessary for maintenance of our clinical skills. The model office practice is supported by a model office laboratory, a small number of subspecialty clinics, and consultation from the large number of practicing subspecialists who are members of our clinical faculty. We teach practice management by both didactic and preceptorial methods. We believe that the transition from residency to private practice might be made more easily from such a model than from the traditional medical clinic. Further, while those of us who train residents have a responsibility to insure that they acquire an appropriate information base, we also have an obligation to see that this knowledge is effectively applied. Establishing good habits during the training period by teaching residents how to practice, as well as what to practice, might insure a more uniformly efficient performance after they leave the program. The model office practice, which is the standard their future practices will presumably emulate, should not necessarily be patterned after existing medical practices but should be as nearly ideal as possible. These principles of ambulatory care training have been widely adopted in internal medicine residencies. Eighty percent of pro-

grams now have continuity in their clinics and 39% have organized their residents into small group practices that include faculty and various components of the health care team.¹

It is feasible to establish a training program that incorporates these features in the immediate environment of a medical school. Indeed, many departments of medicine have established divisions of general medicine, but their success in developing faculty who are the academic equals of those in other divisions, in inducing medical students and residents to become general internists rather than subspecialists, and in competing for space, funds and faculty support remains to be seen. Departments of medicine might consider placing their divisions of general medicine in closely affiliated community hospitals where the essential program characteristics might accrue more naturally among a community of practitioners.

The use of community hospitals for medical student education has long been practiced elsewhere, but only within the last decade have these hospitals been asked to provide integral components of the undergraduate medical curriculum in North Carolina. This has been dictated in part by the need for more beds for teaching our enlarged medical student bodies, but I think that there are at least two positive factors: (1) medical school administrations and faculties are genuinely concerned about the problems of health care delivery and desire to provide more relevant experiences for students, and (2) the climate for medical education in community hospitals has become more favorable for a variety of reasons. Now, at any given time, more than 100 of our 320 third- and fourth-year students at UNC are assigned away from Chapel Hill. In 1972 the number was six out of 200. One month of the internal medicine rotation for third-year students is required to be spent on a community hospital-based service, and one month of the fourth year is a required acting internship in an AHEC hospital. Two-thirds of the

latter are in internal medicine. Additional elective rotations in community hospitals are acceptable and are popular with students. While we have no objective data as yet by which to assess the impact of these experiences on the quality of our students' education, their perceptions of their value are highly favorable. On the other hand, the presence of medical students in the community hospital helps to create a learning environment in which patient care is enhanced.

While community hospital-university affiliations may make important contributions to health manpower development through undergraduate and graduate medical education, their finest contribution may be to health manpower *maintenance*, or continuing education. If we accept as the measure of effectiveness of continuing education its potential to change a physician's practice, then the traditional format, i.e., the medical meeting, must surely rank as the least effective of all forms. Its major drawback is the lack of a clinical situation in which the information gained can be secured by immediate application, i.e., put into practice. The popular symposium and workshop, which usually address a relatively narrow field with high intensity, are improvements but probably contribute substantially to the cost of continuing medical education. The average member cost per CME hour of 553 programs offered by 45 organizations was recently estimated to be over \$12; the lowest cost, \$10 per hour, was found for programs sponsored by medical schools and hospitals.³

I have long been convinced that to deliver effective continuing education the university must find a way to live with the practicing physician and to impinge on his thought processes where he works, i.e., at the bedside of his patient. The greatest success might derive from their being closely associated on a frequent and regular basis, solving clinical problems together as colleagues and maintaining the essential attitudes of self-criticism and inquiry. One way of accomplishing this is to make of the practicing

physician a teacher, at least for brief recurring periods. Most of us respond to the challenge of teaching by reading more and by taking a more analytical approach to clinical problems. Contact with students and residents, who are preoccupied with learning, tends to expose our deficiencies and stimulates us to update our knowledge of clinical medicine and improve, by reading and consultation, our ability to solve clinical problems. Our patients, who are in the center of this activity, are likely to benefit through improved care. Unfortunately, this method tends to benefit most those who need it least, since teachers are generally selected on the basis of their interest and ability, but by creating a cadre of part-time teachers within a community hospital staff, e.g., a medical teaching service, one may establish a structure for continuing education that may permeate the entire staff and promote higher standards for patient care. Since more than half the 54,000 internists in the United States participate to some extent in teaching,¹ this method seems already to be widely exploited.

An obvious limitation of this system is its lack of applicability to the small community hospitals that cannot support residency programs, and to office practice. I have suggested that both the fulltime and clinical faculties in our various AHECs in North Carolina might be used on a regular basis as consultants in the smaller hospitals and even in physician's offices, interacting with individual physicians in small groups in the setting of their own practices. My close friend and colleague, Dr. Oscar Sapp, who was director of Continuing Medical Education at UNC prior to his death early this year and also a former Distinguished Alumni Lecturer, had experimented with such techniques. Two major drawbacks to this plan are: (1) time for both faculty and practicing physicians to devote to continuing education and, (2) the natural reluctance of some physicians to submit their work to such close scrutiny. Stringent continuing educational requirements and increasing regulation of medical

practice standards, however, may eventually make this plan or some variation of it seem attractive as a voluntary alternative.

As in any marriage both parties must benefit, so must both the community hospital and university, bound together by the vows of affiliation, find such a union mutually beneficial. I have indicated how the community hospital might help the university to meet its responsibilities in undergraduate and continuing medical education, and how it might share the burden of physician manpower development with the university's primary teaching hospital. The community hospital's primary purpose, however, is to provide for its patients quality health care at the lowest possible cost. Many community hospitals are supported by local taxes, and taxpayers may take a dim view of subsidizing any university by this means. Further, to build education into a health care system requires some compromises with efficiency and increases cost, for education has its own requirements in terms of time, manpower, space and appurtenances. The only enduring justification for a community hospital's commitment to an educational program, therefore, is in the premise that health care delivered in such an environment is apt to be of higher quality. Teaching programs generally provide health care for the indigent of a community, and usually of better quality than when they have to compete in a private system for available services. Teaching programs may also help to solve local manpower shortages, but what will happen when there is no longer a physician shortage, a prospect that may become a reality within another decade? Cutbacks that will probably be dictated by federal quotas should be designed not to eliminate but to preserve residency programs in selected community hospitals, because of their eminent suitability for training primary care physicians, their impact on the quality and distribution of health care, and their effectiveness as a vehicle for continuing medical education.

I have suggested some possible

accomplishments of a community hospital-university affiliation, but what is possible is not always feasible. A multitude of acute and chronic problems, major and minor, will surely beset any such program, variously impairing its functioning and perhaps even threatening its survival. A discussion of a role for the community hospital in medical education would be incomplete without mention of some of the basic conditions for affiliation and of some of these potential problems.

1. There must be agreement on its purposes and mutual benefits between the medical staff and the university faculty. All goals must be predicated on benefits to both institutions, for there is no better insurance of cooperation than self-interest.

2. All negotiations must be conducted in an atmosphere of mutual trust. Confidence in the good faith of each party by the other does not render business-like arrangements and a clear statement of purpose less essential, but it facilitates their definition. All contingencies cannot possibly be anticipated and satisfactory resolution of the problems that will inevitably arise is impossible in an atmosphere marred by distrust. A degree of flexibility in the agreement, with the understanding that both institutions at times will give and take, will expedite the solution of problems and insure a healthier program.

3. Perhaps the greatest potential for conflict exists at the actual interface between the hospital and the university, i.e., between the medical staff and local university faculty. There must be free and open communication between these bodies and respect for each other's opinions and prerogatives. To minimize potentially troublesome frictions at this interface the university must insure that the fulltime faculty who represent it have the academic credibility and professional competence to command the respect of the medical staff. Accordingly, the university must reserve to itself the right to select all faculty, subject to the advice and consent of the hospital, and must require that their personal and pro-

fessional qualifications be the equal of university faculty elsewhere.

4. The university must be held accountable for all decisions in which educational considerations predominate. To relegate these matters to local bodies in which university representation is inadequate or lacking would be an abrogation of its responsibility and a disservice to its faculty. The best forum for consideration of educational matters, i.e., the education committee, is one in which there is equal representation of both institutions, including parent as well as local faculty of the university. Such balanced representation may evoke livelier discussion over issues, but is apt to keep the focus on matters germane to the educational mission and minimize the often subtle and pejorative influences of medical politics.

5. Isolation of university faculty in a community hospital environment, with insufficient access either to the university or to the hospital's governing bodies, is a threat to the continuity, vitality and viability of the teaching program and must be circumvented. The best protection against isolation is an effective education committee; channels of communication with the department of medicine and adequate representation in the governing bodies of the hospital, insuring that faculty views will be heard, are essential for a healthy faculty and program.

6. The fulltime faculty must be assured full academic prerogatives, including academic freedom, the time for and the privilege of doing suitable research, and responsibility for scholarship.

7. Local faculty can hardly be expected to represent the university with pride unless they enjoy the social and economic advantages of their peers in private practice. Adjustments of salaries and fringe benefits may, therefore, be necessary. Tenure and promotion should be awarded on the same grounds that they are accorded other faculty, i.e., merit, in full consideration of their special roles. The same mechanisms for evaluation of local faculty for tenure and promotion should be used as for other mem-

bers of the department of medicine. While any source of relevant information may be useful, the judgments of persons who are not indigenous to the academic community must be interpreted with caution to avoid unfair penalties and undue rewards.

I believe in the principle of extending university medical schools into selected community hospitals in order to better serve undergraduate and continuing medical education, and perhaps to find an improved training ground for the gen-

eral internist, who appears destined to be a major provider of primary care for our adult population for the foreseeable future. With appropriate direction and with acceptance, the university's influence may be extended in more effective ways even into small communities. An undertaking of this magnitude that requires the concerted effort of so many individuals, especially physicians who are by tradition independent in thought and action, will inevitably encounter many problems. If basic academic principles are

honored, however, and an attitude of mutual trust prevails, such a partnership may be an efficient and cost-effective means of improving the amount, quality and distribution of health care.

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Dogs given a single injection thirty minutes preoperatively showed very high cephaloridine levels in the hematoma, approximating those of serum. The decrease in concentration in the hematoma then was significantly slower than in serum. By nine and one-half hours after injection, the serum concentration fell below detectable levels (0.1 microgram per milliliter) while the hematoma maintained detectable concentrations for an additional eleven and one-half hours.

Administration of the antibiotic during the postoperative period thus increased its persistence in both serum and hematoma at an effective level by approximately two hours, but the lag period between the decay curves of serum and hematoma remained about thirteen hours. With this regimen the hematoma contained bacteriocidal levels continuously for more than sixty-four hours.

The six dogs subjected to the standard operation thirty minutes after having received twenty milligrams per kilogram of cephaloridine intravenously, had 500,000 staphylococci delivered into the hematoma and postoperatively five intramuscular injections (same dose) were given at eight-hour intervals. . . . None . . . exhibited clinical evidence of infection. . . .

. . . six additional dogs had the standard operation and had 500,000 organisms inoculated into the hematoma. No preoperative cephaloridine was given but doses of twenty milligrams per kilogram were given intramuscularly for five doses, given every eight hours, and started at different intervals postoperatively. . . . All cultures grew the inoculated organisms.

In the final phase of the study, bone wounds contaminated with the known infective inoculum (500,000 organisms) and treated with cephaloridine begun preoperatively were converted to bacteriological sterility and none exhibited the tissue changes of infection. When similar regimens of administration of cephaloridine were delayed for as little as six hours postoperatively, bacteriological sterility could not be obtained. The regimens beginning within twenty-four hours after the operation did, however, eliminate the observed tissue changes associated with infection, but if the regimen was begun after twenty-four hours there was then no discernible difference between the wounds so treated and the wounds of the untreated controls, since both were infected. — William H. Bowers, Frank C. Wilson and Walter B. Greene, Antibiotic Prophylaxis in Experimental Bone Infections, *J. Bone Joint Surg* 55A:795-807, 1973. (Reproduced with permission.)

The Edgemont Community Clinic: Durham's Student-Operated Free Clinic Begins Its Second Decade

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ABSTRACT Durham's Edgemont Community Clinic, operated by health science student volunteers from Duke University and the University of North Carolina, was founded 10 years ago to serve the indigent Edgemont neighborhood. The semiweekly clinic has grown steadily and now has over 2,000 patient visits a year. Overseen by volunteer licensed practitioners, clinic volunteers administer general physical examinations, manage many acute and chronic medical illnesses and operate a free pharmacy and a laboratory. Throughout its history the clinic has never had a secure financial base. The student administration continued to search for long-term funding and a new building to replace the present dilapidated structure. These efforts have resulted in the establishment of a new community-based facility that will enable this model free clinic to continue its service to Durham's indigent during a second decade.

THE political climate of the 1960s was responsible for the inception of many social programs at both the local and national level. Medicine in America was most certainly affected by governmental and private efforts to improve health care for the needy and elderly. Members of various health science professions from all levels of training became involved in local free clinics, which became integral parts of our system of medical care.

During the past 10 years, some organizations changed focus by turning their efforts to drug abuse problems for which federal subsidies were more readily available or developing more secure financial support through Medicare and Medicaid. In North Carolina, two free clinics founded by students in 1968, the Edgemont Community Clinic and the Chapel Hill-Carrboro Family Health Clinic, have followed neither route, but instead have continued to provide free medical care to anyone walking through their doors. Other student-run clinics are still operating, as in Nashville and Denver; the two North Carolina clinics, however, deserve examination since they operate independently of any parent medical center.

The early years of the operation of these North Carolina clinics have

been described elsewhere.¹⁻⁴ This paper reviews the history and status of the Edgemont Clinic at its 10th anniversary.

HISTORY OF THE CLINIC

In 1968 medical students from the University of North Carolina at Chapel Hill, concerned about the health care of the indigent, formed the Student Health Action Committee (SHAC). Their goal was to improve the accessibility of health care to disadvantaged residents of Durham, Orange and Chatham counties. With representatives of the other health science disciplines among their ranks some SHAC members identified the Edgemont Community of Durham as a population in need of improved health care while others became concerned with the care of indigent Chapel Hill and Carrboro residents.

Edgemont was then a low-income, biracial community of 5,000 in the eastern section of Durham. No physicians or dentists were practicing within the community or identified as serving the residents, who generally depended on the Durham County Health Department or the emergency and outpatient departments of Duke Hospital for medical care.

Many Edgemont residents did not seek medical attention at all be-

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cause of prohibitive costs, inadequate public transportation, inconvenient clinic hours, and frequent impersonal treatment.¹⁻³ After some negotiations, support for a series of educational programs in public health was obtained from the U.S. Office of Economic Opportunity (OEO).

During these early ventures, it became apparent that the residents of Edgemont would benefit greatly if a local clinic were established. Community leaders willing to work toward this goal were identified, and a Community Board was organized to work with SHAC to develop and manage the facility. Through community rummage sales, UNC medical student fundraising drives, and donations from pharmaceutical companies and the local medical society, enough funds and supplies were obtained to furnish an old store.

On November 4, 1968, the Edgemont Community Clinic opened its doors to provide free, personalized, primary medical care on a continuous basis, and to offer students an opportunity to become involved with the health problems of the underprivileged. Because the support of the community was vital for the clinic's success, a strong Community Board was essential. It offered valuable advice on all policy matters and provided some of the manpower needed to run the clinic.

The clinic, staffed by students from both Duke University and the University of North Carolina, with licensed professionals as preceptors, was open initially on Monday evenings. Between 20 and 30 patients were seen each night until the facility was destroyed by fire in June 1969. Patients were seen at a church while, with continued community support, an old house was found and rented for the relocation of the clinic. Demand for services increased and a twice weekly schedule was introduced.

The success of the free clinic was recognized by the administration of Durham's Lincoln Hospital, now solely an outpatient arm of the Durham County Hospital Corporation. A proposal to merge the two facilities in 1972 was seriously consid-

ered by the Community Board and clinic staff. Although an opportunity to assimilate an already functioning and voluntarily staffed satellite clinic into the Lincoln system along with increased financial resources and a well-supplied support facility for Edgemont were major factors favoring the merger, the loss of community and student control led the Edgemont board to reject the merger. Further discussions concerning merger with Lincoln, however, have continued periodically.

For the next few years, the clinic continued to serve Edgemont and neighboring districts as well as patients from more distant sections of the city and county. By 1975, due to waning interest and internal political difficulties, the Community Board dissolved and total responsibility for the clinic's operation was assumed by students, the majority of whom were now from Duke. In 1976 students from Duke's Department of Health Administration began to serve as the directors of the clinic, and a policy committee of health administration students, medical students, and other clinic personnel was formed.

EDGEMONT'S CURRENT STATUS

The Facility

The clinic, at 1012 East Main Street, has a waiting room, lavatory, an office and file room, six examining rooms, a laboratory and a combination consulting room, work room and pharmacy where a variety of antihypertensive agents, antibiotics and anti-inflammatory drugs are stocked. No controlled substances or contraceptives, however, are available. The initial development of the clinic's formulary has been discussed elsewhere.² The clinic's laboratory performs routine urinalyses, hematocrits, pregnancy tests, Gram stains, and other microbiological preparations. Blood chemistry and cell count studies are sent to a private lab, as are pap smears and cultures.

Funding

The clinic has never been financially secure. Donations from medi-

cal societies, pharmaceutical companies, and the SAMA-Sears Foundation were instrumental in starting the clinic. As both the use of the clinic and the cost of medical and pharmaceutical supplies increased, the annual supply budget rose toward its present-day figure of \$5,000.

Each year the members of SHAC raise \$1,200 for supplies and this sum is matched by the health science faculty of UNC and by North Carolina Memorial Hospital (NCMH), and half of the resulting \$3,600 is allocated to Edgemont for the purchase of supplies from NCMH. Drugs initially donated by Duke Hospital, local practitioners, and pharmaceutical manufacturers are now purchased with these funds. Additional money has been obtained from the Davison Society of the Duke University School of Medicine, the Duke Chapel Board, and from anonymous donors. Some of these contributions are deposited in the general SHAC supply fund, while others are used solely for the Edgemont Clinic. Patients have also made small donations of cash and furnishings. The private laboratory absorbs the cost of tests it performs. Rent, utilities, and telephone expenses are paid by Durham's Operation Breakthrough, an OEO agency. Time donated by the clinic volunteers is tallied by Operation Breakthrough and used to secure federal funds for that agency's operation.

SHAC funds have been obtained for the coming year, and the money remaining from last year is being spent cautiously. An appeal to the United Fund of Durham County for financial assistance was denied. Sources of future funding are being sought.

Staffing

The clinic's entire operation is run by a volunteer staff of more than 100 students and professionals. Medical Services are provided primarily by students from Duke. The unique medical curriculum at Duke, which rotates students through the core clinical services during the second year, permits third and fourth year students to serve on the

medical staff. With ideal scheduling, some students are able to follow patients at Edgemont for an extended time period. An important nucleus of clinic staff are members of Duke's M.D.-Ph.D. program. Following their core clinical rotations, these individuals spend from three to four years in basic science research. By working at Edgemont, they have continued their exposure to clinical medicine while pursuing graduate school training. The work of the medical staff is overseen by licensed physicians from Chapel Hill and Durham and by second and third year residents in the Duke-Durham County Hospital Family Practice Program.

Junior and senior nursing students from both UNC and Duke provide nursing care and support, while freshman and sophomore nursing students from Duke coordinate patient flow. Nursing preceptors have served at the clinic and elective credit for UNC students has been awarded.

The laboratory is staffed by registered medical technologists from local hospitals, who perform many of the tests. Preclinical medical students work in the lab and screen patients at the front desk. The pharmacy, which on an average fills over 10 free prescriptions each night, is supervised by registered pharmacists from Duke and staffed by pharmacy students from UNC.

All administrative responsibilities, other than the scheduling of student volunteers, are handled by the clinic directors. They are responsible for the day-to-day operations, fund raising, long-range planning, and analysis of services.

Team Approach to Patient Care

The semiweekly operation is normally staffed by six medical students, two pharmacy students, a medical technologist, up to six nursing students, two health administration students, and both a medical and pharmacy preceptor.

Medical and nursing students work together during each patient encounter. The initial interview and taking of vital signs may be done by a nursing student alone or together with a medical student. Further history is obtained, a physical ex-

amination is performed, and the two students then discuss the case with the medical preceptor. The consultation room also houses the clinic's pharmacy so that the pharmacy students and preceptor can be involved in the dialogue, discussing possible pharmacologic aspects of case management. The medical team and preceptor order appropriate laboratory studies and then decide upon a suitable course of therapy.

Most prescriptions are filled by pharmacy students, who instruct patients in the use of their medications. The pharmacy maintains a medication file on each patient and is responsible for refilling prescriptions on visits when the patient is not scheduled to see a medical student.

Follow-up visits are scheduled on evenings when the same team will be working at the clinic. All patients needing more specialized study and treatment, as well as those desiring contraceptives, are referred to other health care facilities.

The clinic staff believes strongly that the health care team approach to patient care is beneficial for both the patient and the education of the clinic staff. This preferred method of patient encounters and case management is used during the normal academic year when all of the health science schools have full enrollment. During the summer while students are on vacation and early fall when new staff are being recruited and oriented, patient encounters are less structured.

PATIENT POPULATION PROFILE

During the spring of 1978 the administrative staff decided that the clinic was stable enough, in terms of patient visits and coordination of personnel, to warrant long-range planning. This was precipitated

both by the luxury of having enough administrative personnel to deal with both planning and day-to-day operations and because the building housing the clinic was deteriorating rapidly. Inasmuch as the clinic was finishing another year of steady growth, the focus was on planning for the continued expansion of the Edgemont operation. Analysis was conducted not so much to characterize the current status of the clinic and its patients as to assimilate relevant information which when compared to data from earlier years would provide a valid means of projecting service trends for the future. These earlier data were obtained from a previous publication.¹

The clinic's patient population falls into two categories: Those seen only once for routine physical examination and those followed actively for chronic or acute illness. Four key characteristics — age, sex, race and neighborhood of residence — have been determined by an analysis of the medical records of the 190 patients seen between October 1977 and May 1978.

Age, Sex and Race

Most of the clinic's patients are young adults, the vast majority falling between the ages of 16 and 50 (Table 1), a pattern consistent with the experience of the clinic in its early years of operation.

Of those patients whose charts were examined, 43% were male and 57% were female, proportions virtually the same as the sex ratios of the clinic's early years (44% and 56%). The only major deviation among age categories from the total sex distribution occurred in the 50-59 age bracket where there were three times as many women as men. The present racial mix at the clinic is 49% black, 51% white — underscoring the clinic's ability to main-

TABLE 1
Percent of Patients by Age Category
(October 1977-May 1978)

Age Categories							
0-9	10-19	20-29	30-39	40-49	50-59	60-69	70-
5.9	10.8	38.2	16.1	10.2	10.2	5.4	3.2

TABLE 2
Annual Patient Visits by Service Category

Reason for Patient Visit	1974-75		1975-76		1976-77		1977-78	
	visits	%	visits	%	visits	%	visits	%
Medical Treatment	1400	84.6	863	81.3	896	65.4	1186	57.6
Physical Exam	254	15.4	199	18.7	473	34.6	873	42.4
Total Visits	1654	100.0	1062	100.0	1369	100.0	2059	100.0

tain a stance of community-wide service.

Neighborhood of Residence

A distinct change has occurred in the area served by the clinic. While the Community Board was in operation, the clinic was identified as an arm of the immediate community and a majority of the patients came from the three census tracts nearest the clinic. Even then, it was realized that not only were new patients coming from neighborhoods to the east but that an increasingly greater proportion of patients were coming from throughout the city and county. This trend continues. As the Edgemont community decays physically, its residents relocate so that long-term clinic patients in new neighborhoods not only return for services but refer their new neighbors to the clinic. City planners estimate that in five to ten years the area will be condemned and razed. At the present time the East Durham area is developing into the single most frequent neighborhood of patient residence.

CLINIC UTILIZATION

Total Number of Patients and Patient Visits

The clinic's patient population is just under 4,300, a figure representing significant and steady growth since the first months of operation. As a new clinic, open one evening a week, growth averaged about 387 new patients a year. When the clinic opened two evenings a week, the increase grew to about 490 new patients a year.

The clinic has likewise experienced a relatively stable history of patient visits. Increasing rapidly from 485 visits in the first eight months of operation, patient visits stabilized at a yearly rate in excess of 1,800. A sharp decrease in patient

visits followed the dissolution of the Community Board, but these have increased substantially in the three years of operation since then. During the clinic's last year of operation there were 2,059 visits, more than 20 a night. Recently, more than 40 patients have been seen nightly.

Physical Examinations

The most significant change in clinic services is the rapidly increasing proportion of patient visits for physical examinations, growing from 15% to 42% in the last four years (Table 2). The increase in actual patient visits for physicals is even more impressive, from 254 in 1974-75 to 873 in 1977-78. The issue has been raised as to whether too many people depend on the clinic for free examinations. The clinic staff believes, however, that the examinations serve as important screening for many patients who have not consulted a physician in a number of years. This service will be continued.

Treatment for Medical Problems

The medical records of 190 active patients were examined in May 1978 to determine the most frequent medical problems encountered (Table 3). The largest single cate-

gory of diagnosis was gynecologic, accounting for 15%. During the clinic's second year of operation, this category had only been the eighth most frequent problem area (4%).

The next largest category was hypertension (14%), indicating an important shift by the clinic from predominantly acute episodic care toward medical management of chronic illness. Care for diabetics accounted for 2.9% of the clinic's cases. During the clinic's second year, hypertension was only the sixth most frequent medical problem (6%), while diabetes was not even among the 10 most frequent problems encountered.

The third and fourth most frequent problems were dermatologic (10.9%) and psychiatric/emotional (10.6%). These had previously been the fourth and third most frequently encountered problems. Patients with upper respiratory system complaints and those active patients desiring a physical examination made up another 8.8% and 6.5%, respectively.

CONCLUSION

As the Edgemont Community Clinic enters its second decade of service to the indigent of Durham, interest by professional and student volunteers is so intense that there is a waiting list of medical students who want to work.

Two major problems face the clinic: lack of secure funding and an inadequate physical plant and location. Efforts to develop strong ties with local agencies and government have begun, and the possibility of

TABLE 3
Ten Most Frequent Reasons for Visits
(October 1977-May 1978)

Reason	Percent of Total
Gynecological problems	15.1
Hypertension	14.2
Dermatological problems	10.9
Psychiatric and emotional problems	10.6
Upper respiratory problems	8.8
Physical examinations	6.5
Middle and lower respiratory problems	3.8
Diabetes	2.9
Child health supervision	2.1
Otitis	1.5
Other	23.6

relocating the clinic closer to major neighborhoods served is being explored.

ADDENDUM

Since the acceptance of this article for publication, significant changes have occurred. As indicated in the text, the clinic faced two major problems. Efforts to overcome these barriers gave rise to several decisive actions enabling the clinic to improve its services to the community.

The previous discussion emphasized two important factors:

1) That the clinic patient population has come increasingly from the East Durham area rather than the Edgemont community.

2) That the clinic's original and continuing goals are to provide free, personalized primary medical care while improving access to health

care for patients who might otherwise delay obtaining services because of insufficient personal financial resources or inability to qualify for Medicaid and Medicare benefits.

To that end, the clinic staff decided to suspend operation December 1, 1978, and make preparations for establishing a new facility. The East End Neighborhood, a biracial community adjacent to Edgemont, was contacted in early December. Residents there have organized a community group that has been very successful in carrying out and funding a variety of projects. The clinic staff proposed the relocation of the Edgemont Clinic to the East End Neighborhood, a move which required the creation of a community board to assume the responsibility of governing the clinic. Day-to-day administration is to be retained by the volunteer staff.

New quarters, to be named the East End Health Center, have been found and renovation will be done by neighborhood volunteers. Primarily, donations from a variety of sources and substantial foundation support have been received recently. The community board and staff plan for the clinic to begin operations provisionally in mid-summer with services to be expanded by early fall of this year.

By pursuing this strategy, the Edgemont Clinic will continue to meet its original goals in the most appropriate manner although the clinic's name and location are of necessity changed.

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The present study was undertaken in order to investigate further the role of Hageman factor in the generation of the plasma plasminoplastin. The results indicate 1) that the factor which is developed during the incubation of normal euglobulin suspension is a plasminoplastin; 2) that "active Hageman factor" acts like lysokinase on the proplasminoplastin to form plasminoplastin; and 3) that human plasmin, devoid of Hageman-like activity, is ineffectual in the generation of plasma plasminoplastin. — Sotirios G. Iatridis and John H. Ferguson, Active Hageman Factor: A Plasma Lysokinase of the Human Fibrinolytic System. *J. Clin Invest* 41:1277-1287, 1962. (Reproduced with permission.)



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Editorials

ACCIDENTAL DEATH IN NORTH CAROLINA

Accidents are the fourth leading cause of death for the total population, in both North Carolina and the nation. For age groups under 45, accidents are the leading cause of death.¹

North Carolina's 1977 accident rate of 56.2 deaths per 100,000 population is considerably higher than the estimated national rate of 48.5.¹ In addition, the rate for each major cause of accidental deaths, with the exception of falls, is higher in North Carolina than in the nation.² The death rate from fires is about 50% higher than the national rate.³

During 1977, a reported 3,103 North Carolinians died from accidental causes. Nearly half of these residents died in motor vehicle accidents, the leading cause of accidental deaths among all age groups except those aged 75 and over. Of the other accidental deaths, falls were the leading cause, accounting for over 17% of all fatal non-motor-vehicle accidents. The other leading causes of accidental deaths ranked as follows: fires; drownings; poisonings by solid and liquid substances, including drugs; strangulation by ingestion; and surgical and medical complications and misadventures.

The leading cause of non-motor-vehicle accidental deaths varied according to age, race and sex groups. Whites, females and people 65 and older died most often from falls. Almost 60% of fatal non-motor-vehicle accidents to white women 65 and over were falls. Nonwhites and children under age five died more often in fires than in any other accident other than motor vehicle. Fires killed about two out of every five children under age five who died in non-motor-vehicle accidents; seven out of ten of these children were nonwhite.

North Carolinians between the ages of five and 24 as well as all males died of drowning more than any other cause of accidental death other than motor vehicle. About two out of five non-motor-vehicle accidental deaths to males aged 5-24 were drownings. North Carolinians aged 25-44 and 45-64 died more often from poisoning by solid and liquid substances, including drugs, than any other non-motor-vehicle accident.

The fact that there are different leading causes of non-motor-vehicle accidental deaths for different age groups is largely due to the population at risk. The elderly are more prone to injury and death from falls and medical complications. Very young children are more likely to become trapped in fires. Young people aged 5-24 are more likely to be active in water sports

and perhaps less likely to take precautions. A large number of those aged 25-64 reported to have died from accidental poisoning were perhaps actually suicides. Many suicides are not reported as such. Almost 90% of all North Carolinians who reportedly committed suicide by poisoning by solid and liquid substances were also in this age group.

Only 15 states have a higher accidental death rate than North Carolina, including one other South Atlantic state.² Either more opportunities for accidents abound in North Carolina, or the population is not sufficiently safety-conscious. These statistics indicate cause to strive for better accident prevention in our state. — MS. RHONDA K. JOHNSON, Statistical Research Assistant, Public Health Statistics Branch, North Carolina Department of Human Resources, Division of Health Services, Raleigh, N.C. 27602. (Reproduced with permission; *North Carolina Vital Statistics Quarterly Provisional Report*, October-December, 1978.)

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THE MOTORCYCLIST AS GLADIATOR

Gladiators have their problems in our unheroic age but they did in Roman times too. Although we have no statistics on morbidity or mortality under the Caesars, we know from our reading and from watching old movies on television what thumbs down from the audience meant at the coliseum. In the Middle Ages, gladiators — now called knights — sought glory in redeeming Jerusalem from the Saracens but their audience left at home passed few judgments. Little is known of the medical problems of gladiators but we have ample records about knights, who, encased in armor, spent long hours in the saddle, so long in fact that rectal disease became an occupational hazard and perhaps made proctology the first surgical subspecialty. Of course sports medicine and occupational medicine specialists may protest this classification which is after all academic.

As the bloom of chivalry faded and religious fervor waned, knighthood retreated to history, seemingly to stay there forever. But as modern psychologists tell us, you can't keep a good role-model down. Despite

the defeat of romance by the Industrial Revolution, the need to gladiate persisted in the collective unconscious to be restored to its rightful place with the settling of the wild, wild west and the conquest of the sky. World War I, the last of the romantic wars, restored individual combat to its rightful place and gave it a new stage, the sky, so that the Rickenbackers and Richtofens could develop their aerial ballet and Snoopy could pilot his Sopwith Camel. Then as safety and technological advancement made the open cockpit and the pilot's scarf as obsolete as the knight's shield, the great game of football emerged with quarterback as knight and the line as ground crew.

But the quarterback, as the gladiator, is earthbound where the knight had the horse and the aviator the airplane to "at his bidding speed" so that a new vehicle was needed to replace the slow horse and the cold cockpit. So we have motorcycles, most made in Japan, presumably in the Samurai tradition, and even the manual, "Zen and the Art of Motorcycle Maintenance," as a guide to the more ethereal aspects of modern errantry. For there are religious as well as patriotic elements in our story. Knights, who like modern athletes, went to tryout camps for the proving and improving of their ritualistic skills, sought salvation in the Crusades; American football players in the fall weekly renew their allegiance before the kickoff and the Long Ranger as pure and gentle knight defends against evil and stands for law and order.

One feature shared by these gladiators of different periods is the necessity for distinctive headgear: knights, football players and cyclists with helmets, barnstormers with aviator caps and the Lone Ranger with his mask. Another is the servant: lackey, waterboy, female "slave," ground crew or Tonto, all adoring and sycophantic. But the modern cyclist does not always see his helmet as a necessity whereas his predecessors seemed to appreciate that protection against blows or cold was needed. Since modern cy-

cling is seen more as an assertion of individualism than as epic or representative of a society, many of its celebrants view the helmet as restricting, as a denial of personal freedom.

This freedom may be religious as in England where the turban-clad Sikh cyclists have apparently succeeded in exempting themselves from compulsory use of crash helmets because turbans to contain their hair are obligatory under their Hindu sectarianism. A measure to assure their exemption was read in the House of Commons and supported by all parties; it was said to be based on the need to respect religious freedom. Meantime in this country many libertarians of right, left or center see obligatory helmets as contrary to the Bill of Rights and have succeeded in having helmet-use laws repealed in 22 states since 1976. In 1975 Congress had denied the National Highway Traffic Administration authority to require states to enact such laws and to move against states lacking them.

When helmet-use laws were enacted in this country, one of the reasons given was that accidents would be prevented and lives saved. Now that some states have repealed such legislation, we have control and experimental groups which when compared show that one of the rights enhanced by repeal is the right to die in motorcycle accidents. Such deaths rose 23% from 1976 to 4,082 in 1977, a record. Since data could be related to total cycles in use and to total motorcycle miles, there is little doubt that helmets are helpful. In fact, the risk of fatal head injury in an accident is four times as great in the unhelmeted.

One libertarian argument has been that the unprotected rider can hurt only himself. But what of families left behind and what of the medical costs of increased injuries and hospitalizations? These costs seem a high price to pay for the freedom to let one's hair stream in the wind and to die accidentally. Hair sometimes needs to be confined as Samson knew and Absalom learned.

J.H.F.

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 MacPhail, Donald Ian Alasdair, MD. (FP) Bowman Gray, Winston-Salem 27103
 McAlpine, Robert Gooding, Jr., (STUDENT) 1950 Beach St., Apt. A4-102, Winston-Salem 27103

McCombs, Steven Kelly (STUDENT) 609 W. Main St., Carrboro 27510
 McGinness, Larry Phillip (STUDENT) A-17 Village Green, Chapel Hill 27514
 Messenheimer, John Andrew, MD (N) UNC Dept. of Neurology, Chapel Hill 27514
 Moore, Barry Allen, MD. (P) 1705 W. 6th St., Bldg. H., Greenville 27834
 Morris, C. Richard, MD. (PD) UNC Dept. of Pediatrics, Chapel Hill 27514
 Naderi, Mohamad Sirus, MD. (AN) 801 S. Edgehill Road, Charlotte 28207
 Nunn, Chalmers Morton, Jr. (STUDENT) 3600 Tremont Dr., Apt. F-9, Durham 27705
 Parker, Paul M. (STUDENT) 411 N. Columbia St., Chapel Hill 27514
 Patel, Kantibhai Shanabhai, MD. (INTERN-RESIDENT) Box 3094, Duke Medical Center, Durham 27710
 Pippitt, Charles Harley, Jr. (STUDENT) 1125 Hawthorne Road, Winston-Salem 27103
 Ravin, Carl Eric, MD. (DR) Duke Dept. of Radiology, Durham 27710
 Roberts, Lloyd Eugene, MD. (OBG) 1612 Doctors Circle, Wilmington 28401
 Russ, Donald Barnard, MD. (INTERN-RESIDENT) #6 Edgewood Apts., Chapel Hill 27514
 Sanderford, James Lyon, Jr., MD. (INTERN-RESIDENT) 111-A Howell St., Chapel Hill 27514
 Shealy, Ralph McKeetha, MD. (INTERN-RESIDENT) 913 S. Hawthorne Road, Winston-Salem 27103
 Shekelle, Paul Gordon (STUDENT) 2304 Elba St., Durham 27705
 Stinson, Helen Marie, MD. 3908 Kalloramo Drive, Greensboro 27407
 Sugioaka, Mary Hinternhoff, MD. (INTERN-RESIDENT) Bayberry Dr., Rt. #7, Chapel Hill 27514
 Tomeu, Enrique Jose (STUDENT) P.O. Box 37, Frearrington, Pittsboro 27312
 Warren, Harold Draper, MD. (IM) 2333 Rolling Hills Road, Fayetteville 28304
 Waters, Zack James, Jr., MD. (GS) 604 E. 12th St., Washington 27889
 Weinstein, Fred, MD. (P) 2495 Lowell Road, Gastonia 28052
 Weissman, James Michael, MD. (GE) 1904 N. Church St., Greensboro 27405
 Wellman, David Kenton, MD. (GS) 1830 Hillandale Road, Durham 27705
 Winfield, John Buckner, MD. (IM) UNC Dept. of Medicine, Chapel Hill 27514

WHAT? WHEN? WHERE? In Continuing Education

Please note: 1. The Continuing Medical Education Programs at Bowman Gray, Duke, East Carolina and UNC Schools of Medicine, Dorothea Dix, Wayne County Hospital and Burroughs Wellcome Company are accredited by the American Medical Association. Therefore CME programs sponsored or co-sponsored by these schools automatically qualify for AMA Category I credit toward the AMA's Physician Recognition Award, and for North Carolina Medical Society Category A credit. Where AAFP credit has been requested or obtained, this also is indicated.

2. The "place" and "sponsor" are indicated for a program only when these differ from the place and source to write "for information."

PROGRAMS IN NORTH CAROLINA

July 9-12

Annual Meeting Blue Ridge Institute
Place: Black Mountain
Sponsor: North Carolina Lung Association
Fee: \$25
For Information: Mr. C. Scott Venable, Executive Director, North Carolina Lung Association, P.O. Box 27985, Raleigh 27611

July 9-13

Duke University Medical Center Postgraduate Course — Morehead Symposium
Place: Atlantic Beach
Fee: \$175
Credit: 30 hours
For Information: M. Henderson Rourke, M.D., Director of Continuing Education, Duke University Medical Center, Durham 27710

July 12-14

First Annual Mountain Workshop
Place: Asheville
Fee: \$100
Credit: 12 hours
For Information: Emery C. Miller, M.D., Associate Dean for Continuing Education, Bowman Gray School of Medicine, Winston-Salem 27103

July 14-15

Practical Dermatology
Place: Continuing Education Center, Boone
Fee: \$50
Credit: 7 hours
For Information: W. M. Sams, M.D., N.C. Memorial Hospital, Chapel Hill 27514

July 15-20

North Carolina School of Alcohol and Drug Studies
Place: UNC-Wilmington
For Information: Mr. Jim Edmundson, Director, Continuing Education, UNC-Wilmington, P.O. Box 3725, Wilmington 28406

July 18

Prospective Medicine
Place: Lee County Hospital, Sanford
Fee: \$6
Credit: 3.5 hours AMA Category I
For Information: R. S. Cline, M.D., Lee County Hospital, 108 Hillcrest Drive, Sanford 27330

July 22-27

Southern Obstetric and Gynecologic Seminar
Place: Grove Park Inn, Asheville
For Information: W. Otis Duck, M.D., Drawer F, Mars Hill 28754

July 22-27

Diagnosis and Management of Alcoholism and Alcohol Related Disorders
Place: Duke University Medical Center
Fee: \$6½ hours
For Information: M. Henderson Rourke, M.D., Director of Continuing Education, Duke University Medical Center, Durham 27710

July 30-August 4

Diagnostic Radiology Including Ultrasound, CT Scanning and Nuclear Medicine
Place: Atlantic Beach
Fee: \$250
Credit: 30 hours
For Information: Robert McLelland, M.D., Radiology-Box 3808, Duke University School of Medicine, Durham 27710

August 10-11

Electron Microscopy in Diagnostic Pathology
Place: Babcock Auditorium
Fee: \$90
Credit: 7 hours
For Information: Emery C. Miller, M.D., Associate Dean for Continuing Education, Bowman Gray School of Medicine, Winston-Salem 27103

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September 6-9

Annual Meeting North Carolina Academy of Pediatrics and North Carolina PEDIATRIC Society.
Place: Pinehurst Hotel and Country Club
For Information: David Williams, M.D., Chapter Chairman, P.O. Box 27167, Raleigh 27611

September 13-16

1979 Invitational Assembly for Advanced Urology: Surgical Techniques — "How I Do It"
Place: Pinehurst Hotel and Country Club
Sponsor: Division of Urology, Duke University Medical Center
Fee: \$150
Credit: 16 hours
For Information: Linda Mace, Assembly Secretary, Box 3707, Duke Hospital, Durham 27710

September 19

What's New and Old in Gastrointestinal Disease
Place: Lee County Hospital, Sanford
Fee: \$6
Credit: 3.5 hours AMA Category 1
For Information: R. S. Cline, M.D., Lee County Hospital, 108 Hillcrest Drive, Sanford 27330

September 19

Hypertension: An Update on Management and Therapy
Place: Pitt County Memorial Hospital, Greenville
Fee: \$15
Credit: 3 hours
For Information: F. M. Simmons Patterson, M.D., Assistant Dean for Continuing Education, ECU School of Medicine, Greenville 27834

September 20

Symposium on Sarsoidosis — The Great Imitator
Place: Carolina Inn, Chapel Hill
Credit: 8 hours
For Information: William Wood, M.D., Director of Continuing Education, UNC School of Medicine, 319 MacNider Building 202-H, Chapel Hill 27514

September 20-21

Real Time Course for Obstetricians
Credit: 10 hours
For Information: James F. Martin, M.D., Director, Center for Medical Ultrasound, Bowman Gray School of Medicine, Winston-Salem 27103

September 21-22

9th Annual Seminar in Medicine
Credit: 12 hours
For Information: Emery C. Miller, M.D., Associate Dean for Continuing Education, Bowman Gray School of Medicine, Winston-Salem 27103

September 26-30

North Carolina Medical Society Annual Committee Conclave
Place: Mid-Pines Club, Southern Pines
Regular meetings will be scheduled for the Chairman and members of almost all regular Committees of the Medical Society; committee members should plan to be present.
For Information: William N. Hilliard, Executive Director, North Carolina Medical Society, P.O. Box 27167, Raleigh 27611

September 27-28

2nd Trimester Abortion — Perspectives After a Decade of Experience
Place: Carolina Inn, Chapel Hill
Fee: \$200
Credit: 17 hours
For Information: William Wood, M.D., Director of Continuing Education, UNC School of Medicine, 319 MacNider Building 202-H, Chapel Hill 27514

September 29

Update in Ophthalmology
Place: Berryhill Hall
Fee: \$30
Credit: 3 hours
For Information: William Wood, M.D., Director of Continuing Education, UNC School of Medicine, 319 MacNider Building 202-H, Chapel Hill 27514

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Brief Summary

INDICATION: Tenuate and Tenuate Dospan are indicated in the management of exogenous obesity as a short-term adjunct (a few weeks) in a regimen of weight reduction based on caloric restriction. The limited usefulness of agents of this class should be measured against possible risk factors inherent in their use such as those described below.

CONTRAINDICATIONS: Advanced arteriosclerosis, hyperthyroidism, known hypersensitivity, or idiosyncrasy to the sympathomimetic amines, glaucoma. Agitated states. Patients with a history of drug abuse. During or within 14 days following the administration of monoamine oxidase inhibitors, (hypertensive crises may result).

WARNINGS: If tolerance develops, the recommended dose should not be exceeded in an attempt to increase the effect, rather, the drug should be discontinued. Tenuate may impair the ability of the patient to engage in potentially hazardous activities such as operating machinery or driving a motor vehicle, the patient should therefore be cautioned accordingly. *Drug Dependence:* Tenuate has some chemical and pharmacologic similarities to the amphetamines and other related stimulant drugs that have been extensively abused. There have been reports of subjects becoming psychologically dependent on diethylpropion. The possibility of abuse should be kept in mind when evaluating the desirability of including a drug as part of a weight reduction program. Abuse of amphetamines and related drugs may be associated with varying degrees of psychologic dependence and social dysfunction which, in the case of certain drugs, may be severe. There are reports of patients who have increased the dosage to many times that recommended. Abrupt cessation following prolonged high dosage administration results in extreme fatigue and mental depression, changes are also noted on the sleep EEG. Manifestations of chronic intoxication with anorectic drugs include severe dermatoses, marked insomnia, irritability, hyperactivity, and personality changes. The most severe manifestation of chronic intoxications is psychosis, often clinically indistinguishable from schizophrenia. *Use in Pregnancy:* Although rat and human reproductive studies have not indicated adverse effects, the use of Tenuate by women who are pregnant or may become pregnant requires that the potential benefits be weighed against the potential risks. *Use in Children:* Tenuate is not recommended for use in children under 12 years of age.

PRECAUTIONS: Caution is to be exercised in prescribing Tenuate for patients with hypertension or with symptomatic cardiovascular disease, including arrhythmias. Tenuate should not be administered to patients with severe hypertension. Insulin requirements in diabetes mellitus may be altered in association with the use of Tenuate and the concomitant dietary regimen. Tenuate may decrease the hypotensive effect of guanethidine. The least amount feasible should be prescribed or dispensed at one time in order to minimize the possibility of overdosage. Reports suggest that Tenuate may increase convulsions in some epileptics. Therefore, epileptics receiving Tenuate should be carefully monitored. Titration of dose or discontinuance of Tenuate may be necessary.

ADVERSE REACTIONS: *Cardiovascular:* Palpitation, tachycardia, elevation of blood pressure, precordial pain, arrhythmia. One published report described T-wave changes in the ECG of a healthy young male after ingestion of diethylpropion hydrochloride. *Central Nervous System:* Overstimulation, nervousness, restlessness, dizziness, jitteriness, insomnia, anxiety, euphoria, depression, dysphoria, tremor, dyskinesia, mydriasis, drowsiness, malaise, headache, rarely psychotic episodes at recommended doses. In a few epileptics an increase in convulsive episodes has been reported. *Gastrointestinal:* Dryness of the mouth, unpleasant taste, nausea, vomiting, abdominal discomfort, diarrhea, constipation, other gastrointestinal disturbances. *Allergic:* Urticaria, rash, ecchymosis, erythema. *Endocrine:* Impotence, changes in libido, gynecomastia, menstrual upset. *Hematopoietic System:* Bone marrow depression, agranulocytosis, leukopenia. *Miscellaneous:* A variety of miscellaneous adverse reactions has been reported by physicians. These include complaints such as dyspnea, hair loss, muscle pain, dysuria, increased sweating, and polyuria.

DOSE AND ADMINISTRATION: Tenuate (diethylpropion hydrochloride): One 25 mg. tablet three times daily one hour before meals, and in mid-evening if desired to overcome night hunger. Tenuate Dospan (diethylpropion hydrochloride) controlled-release: One 75 mg. tablet daily, swallowed whole, in mid-morning. Tenuate is not recommended for use in children under 12 years of age.

OVERDOSAGE: Manifestations of acute overdosage include restlessness, tremor, hyperreflexia, rapid respiration, confusion, assaultiveness, hallucinations, panic states. Fatigue and depression usually follow the central stimulation. Cardiovascular effects include arrhythmias, hypertension or hypotension and circulatory collapse. Gastrointestinal symptoms include nausea, vomiting, diarrhea, and abdominal cramps. Overdose of pharmacologically similar compounds has resulted in fatal poisoning, usually terminating in convulsions and coma. Management of acute Tenuate intoxication is largely symptomatic and includes lavage and sedation with a barbiturate. Experience with hemodialysis or peritoneal dialysis is inadequate to permit recommendation in this regard. Intravenous phenoltamine (Regitine®) has been suggested on pharmacologic grounds for possible acute, severe hypertension, if this complicates Tenuate overdosage.

Product Information as of April, 1976

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Direct Medical Inquiries to
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References: 1. Citations available on request — Medical Research Department, MERRELL RESEARCH CENTER, MERRELL-NATIONAL LABORATORIES, Cincinnati, Ohio 45215. 2. Hoekenga, M.T., O'Donell, R.H., and Leyland, H.M. A Comprehensive Review of Diethylpropion Hydrochloride. International Symposium on Central Mechanisms of Anorectic Drugs, Florence, Italy, Jan. 20-21, 1977

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In uncomplicated obesity.

Many patients, on the other hand, present with excess fat but no disease. While this condition is often termed uncomplicated obesity, complications of both a social and a psychologic nature may be distressingly real for the patients. In these cases, a short-term regimen of Tenuate can help reinforce your dietary counsel during the important early weeks of an indicated weight loss program.

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April 19

October 10

Diseases of the Liver

Place: Pitt County Memorial Hospital, Greenville

Fee: \$15

Credit: 4 hours

For Information: F. M. Simmons Patterson, M.D., Assistant Dean for Continuing Education, ECU School of Medicine, Greenville 27834

October 11-13

Family Medicine Workshop

For Information: Emery C. Miller, M.D., Associate Dean for Continuing Education, Bowman Gray School of Medicine, Winston-Salem 27103

October 18-21

North Carolina Society of Internal Medicine Fall Meeting

Place: Grove Park Inn, Asheville

For Information: North Carolina Society of Internal Medicine, P.O. Box 27167, Raleigh 27611

November 14

Practical Pediatrics

Place: Pitt County Memorial Hospital, Greenville

Fee: \$15

Credit: 3 hours

For Information: F. M. Simmons Patterson, M.D., Assistant Dean for Continuing Education, ECU School of Medicine, Greenville 27834

November 29-30

Real Time Course for Obstetricians

Credit: 10 hours

For Information: James F. Martin, M.D., Director, Center for Medical Ultrasound, Bowman Gray School of Medicine, Winston-Salem 27103

December 12

Obstetrical Controversies

Place: Pitt County Memorial Hospital, Greenville

Fee: \$15

Credit: 3 hours

For Information: F. M. Simmons Patterson, M.D., Assistant Dean for Continuing Education, ECU School of Medicine, Greenville 27834

ITEMS OF SPECIAL INTEREST

October 6-9

1979 Annual Meeting Southern Psychiatric Association

Place: Hilton Palacio de Rio, San Antonio, Texas

For Information: Southern Psychiatric Association, P.O. Box 10387, Raleigh 27605

October 15-December 7

Retraining Program for Clinically Inactive Physicians

Place: The Medical College of Pennsylvania

Fee: \$1,950

For Information: Retraining Program for Inactive Physicians, Office of Medical Education, The Medical College of Pennsylvania, 3300 Henry Avenue, Philadelphia, Pennsylvania 19129

October 22-26

Radiology Postgraduate Course

Place: Southampton Princess Hotel, Bermuda

Sponsor: Department of Radiology, Duke University Medical Center

Fee: \$275

Credit: 30 hours

For Information: Robert McLelland, M.D., Radiology-Box 3808, Duke University Medical Center, Durham 27710

November 4-7

American Physicians Art Association

Place: Las Vegas, Nevada

For Information: Milton S. Good, M.D., 610 Highlawn Avenue, Elizabethtown, Pa. 17022

PROGRAMS IN CONTIGUOUS STATES

July 25-29

Contemporary Clinical Neurology

Place: Hilton Head Island, South Carolina

Sponsor: Department of Neurology, Vanderbilt University School of Medicine

Credit: 16 hours

For Information: Vanderbilt Continuing Education, 305 Medical Arts Building, Nashville, Tennessee 37212

July 26-29

3rd Annual Neurology Postgraduate Course — Review of New Developments in Neurosciences

Place: Sheraton Beach Inn, Virginia Beach

Sponsor: Medical College of Virginia

Fee: \$200

Credit: 16½ hours

For Information: Ms. Glenda Snow, Continuing Medical Education, Medical College of Virginia, Box 91 MCV Station, Richmond, Virginia 23298

July 27-29

North Carolina Society of Internal Medicine Summer Meeting

Place: The Hilton, Myrtle Beach, South Carolina

For Information: North Carolina Society of Internal Medicine, P.O. Box 27167, Raleigh 27611

July 30-August 3

Seventh Annual Beach Workshop

Place: Myrtle Beach, South Carolina

Fee: \$150

Credit: 20 hours

For Information: Emery C. Miller, M.D., Associate Dean for Continuing Education, Bowman Gray School of Medicine, Winston-Salem 271043

August 24-26

Cardiac Ischemia and Arrhythmias — Current Concepts for Diagnosis and Treatment

Place: Hilton Head, South Carolina

Fee: \$215

Credit: 13 hours

For Information: International Medical Education Corporation, 64 Inverness Drive East, Englewood, Colorado 80112

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December 5-9

4th Southeastern Conference on Alcohol and Drug Abuse
Place: Downtown Marriott Hotel, Atlanta
Sponsors: Peachford Hospital and American Medical Society on Alcoholism
Credit: 27 hours
For Information: Conway Hunter, Jr., M.D., Medical Director, Addictive Disease Unit, Peachford Hospital, 2151 Peachford Road, Atlanta, Georgia 30338

The items listed in the above column are for the six months immediately following the month of publication. Requests for listing should be received by "WHAT? WHEN? WHERE?", P.O. Box 27167, Raleigh 27611, by the 10th of the month prior to the month in which they are to appear. A "Request for Listing" form is available on request.

News Notes from the—

DUKE UNIVERSITY MEDICAL CENTER

The Robert Wood Johnson Foundation of Princeton, N.J., has awarded a 51-month, \$723,123 grant to the medical center to help the Department of Pediatrics strengthen its Division of General Pediatrics.

Division chief Dr. Thomas Frothingham said the grant will provide partial salary support for faculty members and other employees of the division, fund eight two-year fellowships and stimulate a variety of important pediatric research projects.

It also will allow the division to improve its pediatric clinic and establish a medical records system within the clinic, he said.

"In terms of patient care, the Johnson Foundation grant should help us set up a plan in which every child will have a personal doctor who will coordinate the care that child receives over several years whenever he or she visits the hospital as an outpatient," Frothingham said.

"Until now, that continuity of care has not been possible," the physician said.

The clinic's new medical records system will complement the hospital's larger records library by providing immediate access to summaries of past treatment, including immunizations, growth charts and selected test results.

"Along with some physical renovations that we are planning in the clinic, these kinds of improvements should enable us to have an excellent model practice in which residents and fellows can learn," Frothingham explained.

* * *

A series of 10 experimental dives designed to make the exploration for undersea oil safer and more efficient began in April in the F. G. Hall Laboratory (hyperbaric chamber).

The divers, which are simulating depths of 1,500 and 1,800 feet beneath the sea in the laboratory's new 3,600-foot chambers, will take place at the rate of two a year over the next five years.

Dr. Peter B. Bennett, professor of anesthesiology

and director of the facility, said scientists representing a half dozen medical center departments are concentrating on two problems that currently limit the effectiveness of divers at great depths.

One is a condition known as high pressure nervous syndrome (HPNS) that was first observed by Bennett in England in 1965. Characterized by dizziness, nausea, tremors and brain wave irregularities, the affliction appears slightly at about 600 feet and then becomes progressively worse the deeper an individual descends.

The second problem is a phenomenon called dyspnea or air hunger. For some unknown reason, divers complain that they cannot get enough air to perform much work below 1,200 feet even though the amount of oxygen and carbon dioxide dissolved in their blood appears normal.

* * *

Dr. Seymour Grufferman, assistant professor of pediatrics, was a visiting lecturer at the St. Jude Children's Research Hospital in Memphis in March. He spoke on "The Epidemiology of Hodgkin's Disease."

* * *

Dr. Albert D. Loro, assistant professor of psychiatry and community and family medicine, is the author of "Comparison of Established and Innovative Weight Reduction Treatment Procedures," published in a special behavioral medicine issue of the *Journal of Applied Behavior Analysis* this spring. The paper was based on his Ph.D. dissertation research. Loro is behavioral program director of the Dietary Rehabilitation Clinic.

* * *

Newly appointed assistant professors are Dr. Robert Farnham III in the Department of Pathology; and Drs. Darrow E. Haagensen Jr. and William T. Hardaker Jr. in the Department of Surgery.

Promoted from associates in the Department of Pediatrics to assistant professors are Drs. Roberta S. Gray and Mary A. Morris. Dr. Robert H. Shipley was promoted from assistant professor to associate professor in the Department of Psychiatry.

Other new appointees are Drs. George S. Eisenbarth, assistant professor in the Department of Medicine, and Samuel W. Warburton Jr., associate professor in the Department of Community and Family Medicine.

Promoted from assistant professor to associate professor are Drs. Mohammed B. Abou-Donia in the Department of Pharmacology and Stanley J. Rothman in the Department of Pediatrics. Rothman also is an assistant professor of medicine.

Dr. John Ingram Walker was promoted from associate to assistant professor in the Department of Psychiatry.

* * *

The Henry J. Kaiser Family Foundation of Palo

Alto, Calif., has awarded a three-year, \$296,000 grant to the medical center's Division of Cardiology.

The grant, according to Dr. Andrew G. Wallace, chief of cardiology, will enable researchers in the division's clinical epidemiology section to expand and improve the coronary disease chapter of its "Computerized Textbook of Medicine."

The computerized textbook is actually a computer-based medical record that provides physicians with instant access to information — including symptoms, treatment and eventual outcomes — thousands of previous cases of a particular disease.

Its purpose, Wallace explained, is to ensure that patients get the most appropriate treatment, based on the best past experience, at the lowest possible cost. He ascribed the idea of using computer systems to facilitate the care and follow-up of patients with heart disease to Dr. Eugene Stead, former chairman of the Department of Medicine at Duke.

Created in 1967 under the leadership of Drs. Robert Rosati and Frank Starmer, the system now incorporates the records of more than 6,500 patients with acute cardiovascular disease. More recently, the Comprehensive Cancer Center, the divisions of neurology and gastroenterology and several other groups have begun their own "chapters."

* * *

The National Fund for Medical Education of

Hartford, Conn., has awarded a \$20,000 fellowship to Dr. Allen R. Dyer, assistant professor of psychiatry at Duke.

The fellowship will enable Dyer to give up most of his teaching and patient care responsibilities at the medical center for one year to complete work on a Ph.D. in the university's Department of Religion.

The physician, who is also assistant professor of community and family medicine, is writing a dissertation entitled, "Altruism and the Dynamics of the Moral Inversion: The Implications of Michael Polyani's Post-Critical Philosophy for Ethics and Medical Ethics."

News Notes from the—

EAST CAROLINA UNIVERSITY SCHOOL OF MEDICINE

Dr. Edwin W. Monroe has been named associate dean for external affairs in the ECU School of Medicine. He will administer the developing undergraduate and graduate medical education programs in various Eastern North Carolina Hospitals and health centers. He also will provide linkages between the medical school and community medical programs and coordi-

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nate the school's activities with those of the Eastern Area Health Education Center.

Monroe holds a faculty appointment as professor of medicine and will continue his teaching and patient care responsibilities in the Department of Medicine.

Monroe, who was instrumental in the development of a four-year medical school at ECU, has directed the university's health affairs programs since 1971. Prior to joining the university, he was in private practice in Greenville for 12 years.

As the first dean of the School of Allied Health and Social Professions, he initiated the ECU programs in physical and occupational therapy, medical records science, environmental health and social work.

Later, while vice chancellor, Monroe organized the Eastern AHEC for the region and implemented the family nurse practitioner and the master of science degree programs in the School of Nursing.

He received his undergraduate degree from Davidson College and M.D. from the University of Pennsylvania School of Medicine. He completed postgraduate medical training at N.C. Memorial Hospital.

He is a fellow of the American College of Physicians and serves on the state Health Coordinating Council as well as a number of advisory councils and committees concerned with state health services and the education of health professionals.

* * *

East Carolina University has received approval from the UNC Board of Governors for the establishment of five Ph.D. programs in the basic medical sciences.

Dr. Wilhelm Frisell, assistant dean for graduate studies in the medical school and chairman of the Department of Biochemistry, said the doctoral programs will greatly enhance and strengthen medical student education, postgraduate clinical training and continuing education within the school. He said the design of the programs recognizes the close relationship between Ph.D. and M.D. programs in health science education.

The programs in anatomy, biochemistry, microbiology, pharmacology and physiology will be offered by the respective departments in the School of Medicine and administered by the Graduate School. These doctorates will be the first terminal degree programs, other than the M.D., offered by the university. Doctoral students will be admitted to the programs for the 1979 fall semester.

* * *

Over 80 physicians, health law attorneys and hospital administrators and trustees attended the School of Medicine's first annual Health Law Forum April 20. Speakers for the one-day conference included John S. Lawrence, legislative affairs director for the AMA; Donald P. Wilcox, director of health law for the AMA; Ross E. Stromberg, Hanson, Bridgett, Marcus, Milne and Vlahos, San Francisco, Calif.; B. J. Anderson, AMA associate counsel; W. Thomas Berriman, King

of Prussia, Pa.; and Jack C. Wood, Wood, Luck-singer, and Epstein, Houston, Texas.

* * *

Dr. John Derryberry, president-elect of the American Academy of Family Physicians, was the guest of the ECU Family Practice Club at the state organization's spring meeting in Greenville. Derryberry is a family physician in Shelbyville, Tenn.

* * *

Dr. Dan Crittenden, research associate in the Department of Physiology at the East Carolina University School of Medicine, has received a \$1,300 grant from the N.C. United Way to observe the changes that occur in the lungs as a result of stellate ganglion stimulation, an effect that produces alterations in respiratory function similar to those resulting from head injuries.

Crittenden's study will simulate head injuries in animal models to learn more about how a massive discharge of adrenalin produced by the injury causes the lungs to be less elastic and unable to function properly.

He says the project will provide more information on whether the effect is caused by the constriction of small airways in the lungs or by the collapse of tiny alveolar sacs in the lungs.

* * *

Calling it "perhaps the greatest day in Eastern North Carolina history," Governor James B. Hunt, Jr. joined state and local officials in Greenville March 30 for a groundbreaking ceremony for the School of Medicine's \$26 million medical education facility.

The nine-floor Medical Science Building will house the medical school's administrative offices, departments, classrooms, labs and support facilities. It will be one of the state's largest construction projects of the 1970s.

Hunt told a crowd of 500 guests that the event "dramatized the state's commitment to good health care for all people and climaxed the dreams of the people who worked so hard for a medical school at East Carolina."

Hunt emphasized that the school has made "amazing progress" during its first years in its efforts to improve the health care of the state's eastern 29 counties, the most medically underserved area of the state.

Also participating in the afternoon program were UNC President William C. Friday, ECU Chancellor Thomas B. Brewer, Chairman of the Board of Trustees, Troy W. Pate, Jr., Vice Chancellor for Health Affairs, Edwin W. Monroe, School of Medicine Dean, William E. Laupus, and Chancellor Emeritus, Leo W. Jenkins.

* * *

The Department of Pathology and Laboratory Medicine has formed a new educational organization

for members of its profession in the eastern part of the state.

The Society of Eastern North Carolina Pathologists and Clinical Laboratory Scientists holds monthly meetings to discuss selected topics and promote greater exchange of information among its members who represent the hospitals in Beaufort, Carteret, Craven, Edgecombe, Lenoir, Nash, Pitt, Wayne and Wilson counties.

* * *

Dr. Sandra Bridwell has joined the School of Medicine as associate director of the Center for Student Opportunities. She will coordinate the center's recruitment, retention and counseling services.

Bridwell received her undergraduate and master's degrees from the University of Louisville and a Ed.D. from Indiana University. She has served as coordinator of the Jefferson County (Ky.) Adult Learning Center and the Office of Secondary Student Teaching, University of Louisville.

Prior to joining ECU, she was associate instructor at Indiana University and an assistant in the school's higher education department.

* * *

Dr. Dan M. Granoff has been named associate professor of pediatrics and director of pediatric infectious diseases.

Granoff formerly was assistant chief of pediatrics at Valley Medical Center, Fresno, Calif., and assistant clinical professor of pediatrics at the University of California-San Francisco.

He received his undergraduate and medical degrees from Johns Hopkins University and did postgraduate training at Children's Hospital of Philadelphia, Johns Hopkins Hospital and Cleveland Metropolitan General Hospital. Following his residency, he was chief of pediatrics at the Myrtle Beach Air Force Base Hospital.

* * *

Dr. Alice B. Granoff, a specialist in diabetes and abnormal growth problems of children, has been appointed associate professor of pediatrics and director of pediatric endocrinology.

Prior to joining ECU, she was assistant chief of medicine and pediatrics at Valley Medical Center, Fresno, Calif., and served as pediatric endocrine consultant to Valley Children's Hospital in Fresno.

Granoff received her undergraduate degree from the University of Texas-Austin and her M.D. from the University of Texas Southwestern Medical School. She completed postgraduate training at St. Louis Children's Hospital, St. Louis, Mo., and Johns Hopkins Hospital, Baltimore, Md.

She has held faculty and medical staff appointments at Temple University, St. Christopher's Hospital for

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News Notes from the—

**BOWMAN GRAY SCHOOL
OF MEDICINE
WAKE FOREST UNIVERSITY**

The Bowman Gray School of Medicine has begun its 22nd year of participation in Cancer and Leukemia Group B (CALGB), an international cancer research organization consisting of 40 institutions in six countries.

Bowman Gray has received a \$393,855 grant from the National Cancer Institute to support continuation of its work with CALGB for an additional three years.

The purpose of CALGB is to develop improved methods of cancer therapy.

Dr. Charles L. Spurr, professor of medicine, has been the principal investigator in charge of CALGB studies at Bowman Gray since 1958. Spurr is now director of the medical school's Oncology Research Center. Dr. M. Robert Cooper, professor of medicine, has succeeded Spurr as the chief investigator for CALGB activities. Co-investigators are Dr. Richard B. Patterson, professor of pediatrics; Dr. J. Michael Sterchi, assistant professor of surgery; and Dr. Carolyn Ferree, assistant professor of radiology.

The CALGB group at Bowman Gray will be placing greater emphasis on the study of solid tumors, particularly those of the breast, colon and lungs. Work also is under way on several drug trials designed to test new drugs in the treatment of tumors which are unresponsive to conventional therapy.

* * *

Seventeen students at the Bowman Gray School of Medicine have been elected to membership in Alpha Omega Alpha, national medical honor society.

Those elected from the senior class include Alfred L. Baker of Rockland, Del.; Jack L. Berger of Pittsburgh, Pa.; Miss Karen G. Cloninger of Lincoln; Paul G. Colavita of Chatham, N.J.; Al. N. Hawks, Jr. of Mount Airy; Danny M. Honeycutt of Concord; William J. Knauer of Jacksonville, Fla.; W. Leonard Pugh of Winston-Salem; Miss Robin L. Rahm of Bristol, Tenn.; Edward N. Robinson, Jr. of Winston-Salem; Vernon C. Smith, Jr. of Huntersville; Robert H. Stetler of Charlotte; W. Spencer Tilley of Charlotte; and Marcus L. Troxell of Winston-Salem.

From the junior class, the new AOA members are David C. Caldwell of Arlington, Va.; Ted H. Clontz of Columbia, S.C.; and Brian L. Matthews of Fayetteville.

Election to AOA is based on scholastic achievement and character.

* * *

The Bowman Gray School of Medicine has graduated its first students from a pilot program for nurse specialists in neurology and neurosurgery.

The seven nurses, all of whom had extensive patient care experience prior to being admitted into the program, took both classroom and clinical training for the past eight months.

With their additional training, the nurse specialists will be able to assume greater responsibilities in the care of patients and to take a larger role in coordinating the medical and nursing aspects of patient care.

* * *

Robert H. Stetler of Charlotte, a senior medical student at Bowman Gray, has been accepted as a short-term medical worker in Liberia.

His application to study medicine in a Third World country has been approved by the Sudan Interior Mission, an evangelical group.

Stetler and his wife, Susan, a respiratory therapist, will spend six weeks in a Liberian Hospital.

* * *

Leonard Avecilla, instructor in allied health (medical sonics), has been elected president of the Triad Ultrasound Society.

* * *

L. Ann Daniels, allied/public health education director, has been appointed chairman of the statewide Professional Advisory Council of the Health Education Division, School of Public Health, University of North Carolina at Chapel Hill, for a three-year term.

* * *

Mrs. Harriett Faulkner, director of Bowman Gray's Office of Minority Affairs, has been re-elected treasurer of the National Association of Medical Minority Educators, Inc.

* * *

Dr. Joseph E. Johnson, III, professor and chairman of the Department of Medicine, has been appointed to the Scientific Program Committee of the American College of Physicians and to the Ad Hoc Committee on the Clinical Laboratory Improvement Act of the Association of American Medical Colleges.

* * *

Dr. James F. Martin, professor of medical sonics, has been re-elected secretary of the American Roentgen Ray Society.

* * *

Dr. Isodore Meschan, professor of radiology, has received a two-year appointment to the Scientific Ad-

visory Board of the Armed Forces Institute of Pathology.

* * *

Dr. Murray P. Naditch, associate professor of psychology, has been appointed consulting editor of the *Journal of Abnormal Psychology* for a two-year period.

* * *

Dr. Edward J. Pisko, assistant professor of medicine (rheumatology), has been appointed to the Advisory Board of Directors and the Medical Advisory Council of the North Carolina Chapter of the Arthritis Foundation.

* * *

Dr. Frank M. James, III, professor and head of the Section on Obstetric Anesthesia, has been elected president of the Society of Obstetric Anesthesia and Perinatology for 1979-80.

pediatric anesthesia at the Governors Inn in the Research Triangle Park.

The symposium, sponsored by the Department of Anesthesiology at the University of North Carolina at Chapel Hill School of Medicine, considered anesthesia in relation to children, including infant resuscitation after difficult labor or drug overdose, outpatient anesthesia and plastic surgery.

Dr. Alan W. Conn, director of intensive care at the Hospital for Sick Children in Toronto, Canada, and Dr. Ferdinand Vlazny, professor of anesthesiology at Marquette University School of Medicine, were featured speakers at the symposium. Other speakers included faculty members of the UNC-CH School of Medicine's Departments of Anesthesiology and Pediatrics.

* * *

Faculty appointments in the School of Medicine announced by Chancellor Ferebee Taylor include: Dr. Jean M. Lauder, associate professor of anatomy; Dr. Thomas W. Bouldin, instructor of pathology; Dr. Donald T. Forman, professor of pathology; Dr. Ernest J. Burkes, oral pathologist in the School of Dentistry and professor of pathology; Dr. Robert M. Howell, oral pathologist in the School of Dentistry and associate professor of pathology; Dr. Robert L. Peiffer Jr., assistant professor of pathology; Dr. Raymond J. Dingledine, Jr., assistant professor of pharmacology; Dr. Robert D. Myers, professor of psychiatry; and Dr. C. Leon Partain, research assistant professor of radiology.

News Notes from the

UNIVERSITY OF NORTH CAROLINA- CHAPEL HILL SCHOOL OF MEDICINE AND NORTH CAROLINA MEMORIAL HOSPITAL

Anesthetists and anesthesiologists from North and South Carolina and Virginia attended a symposium on

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Dr. Joan C. Rogers, occupational therapy, Medical Allied Health Professions, presented "The Design of Master's Programs in Baccalaureate Level Professions" at the conference on the Assessment of Quality of Master's Programs, University of Maryland. The conference was jointly sponsored by the Commission on Higher Education of the Middle States Association of Colleges and Schools, Council of Graduate Schools in the United States and the University of Maryland College.

* * *

Dr. W. Ray Gammon, dermatology, presented "The Diagnosis of Pathogenesis of Acquired Bullous Diseases: The Value of Immunofluorescence Methods" at the Pittsburgh Academy of Dermatology in Philadelphia.

* * *

Anne Blakeney, M.S.O.T., O.T.R., division of occupational therapy, Sandy Reeves, O.T.R., occupational therapy clinic, and Irene Hollis, O.T.R., formerly of the Hand Center, wrote chapters for the book, *Rehabilitation of the Hand*. Blakeney wrote "Injury Splinting and Temperature Assessment of the Insensitive Hand" with H. Bergtholdt and H. Wood. "Rehabilitation of the Burned Hand" is by Reeves, with Dr. Roger E. Salisbury, director of the N.C. Jaycee Burn Center, and P. Wright, R.P.T., physical therapy. "Innovative Splinting Ideas" was contributed by Hollis.

* * *

Shellye Bittinger, O.T.R., occupational therapy, presented "Basic Principles of Joint Manipulation" to the American Society of Hand Therapists in San Francisco. The meeting was held in conjunction with the annual meeting of the American Society of Hand Surgeons.

* * *

Dr. Robert A. Briggaman, dermatology, visiting professor at Yale University, presented "Nude Mouse — Human Skin Model for the Study of Skin

Pathology" to the Department of Pathology, and "Immunology of Warts" to the Department of Dermatology.

* * *

Dr. W. Mitchell Sams Jr, dermatology, presented "Vasculitis" at the University of Pennsylvania in Philadelphia. Sams also attended the Annual Meeting of the Council on National Annual Meetings in Chicago. Sams is a member of a committee responsible for overall direction of educational activities.

* * *

Three specialists in burn care at North Carolina Memorial Hospital will visit Egypt in April as part of a new exchange program between the medical schools of the University of North Carolina at Chapel Hill and Alexandria University.

Drs. Roger Salisbury and Peter Dingeldein, both plastic surgeons, and nurse Debbie Landis will give lectures and participate in clinics on burn and trauma care during their one-month stay. The physicians will also demonstrate reconstructive surgery techniques.

Salisbury is director of the North Carolina Jaycee Burn Center at N.C. Memorial and an associate professor of surgery in the School of Medicine. Dingeldein, a resident in plastic surgery, was recently selected to receive the first Burn Center Fellowship. Landis is a nurse in the hospital's burn unit.

Salisbury will be only the second faculty member to visit Alexandria under the exchange program. Dr. Harry Gooder, professor of bacteriology and immunology, is currently in Alexandria teaching advanced students in the basic medical sciences.

* * *

Dr. Robert D. Utiger has been appointed professor of medicine and director of the Clinical Research Unit of the School of Medicine at the University of North Carolina at Chapel Hill.

Prior to his appointment here, Utiger was chief of the endocrine section of the Department of Medicine at the University of Pennsylvania School of Medicine.

Utiger succeeds Dr. T. Kenney Gray as director of the CRU. Gray, who has held the post since July, 1976, is stepping down to devote more time to teaching, patient care and research.

* * *

Dr. William C. Trier, surgery, was elected president-elect of the American Cleft Palate Association at the annual meeting in San Diego. Trier presented a study course on the surgical treatment of secondary lip and nose deformities caused by cleft lip.

* * *

Dr. Michael Pool, a third-year resident in psychiatry, was selected as a Sol W. Ginsburg Fellow for 1979-1980. He is the third Ginsburg Fellow in three years from the UNC-CH Department of Psychiatry.

The fellowship was established in 1957 by the Group

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particularly in the elderly, diabetics, and those with suspected or confirmed renal insufficiency (see Warnings). If hyperkalemia develops, substitute a thiazide alone.



Before prescribing, see complete prescribing information in SK&F Co. literature or PDR. A brief summary follows:

* WARNING

This drug is not indicated for initial therapy of edema or hypertension. Edema or hypertension requires therapy titrated to the individual. If this combination represents the dosage so determined, its use may be more convenient in patient management. Treatment of hypertension and edema is not static, but must be reevaluated as conditions in each patient warrant.

Contraindications: Further use in anuria, progressive renal or hepatic dysfunction, hyperkalemia. Pre-existing elevated serum potassium. Hypersensitivity to either component or other sulfonamide-derived drugs.

Warnings: Do not use potassium supplements, dietary or otherwise, unless hypokalemia develops or dietary intake of potassium is markedly impaired. If supplementary potassium is needed, potassium tablets should not be used. Hyperkalemia can occur, and has been associated with cardiac irregularities. It is more likely in the severely ill, with urine volume less than one liter/day, the elderly and diabetics with suspected or confirmed renal insufficiency. Periodically, serum K⁺ levels should be determined. If hyperkalemia develops, substitute a thiazide alone, restrict K⁺ intake. **Associated widened QRS complex or arrhythmia requires prompt additional therapy.** Thiazides cross the placental barrier and appear in cord blood. Use in pregnancy requires weighing anticipated benefits against possible hazards, including fetal or neonatal jaundice, thrombocytopenia, other adverse reactions seen in adults. Thiazides appear and triamterene may appear in breast milk. If their use is essential, the patient should stop nursing. Adequate information on use in children is not available.

Precautions: Do periodic serum electrolyte determinations (particularly important in patients vomiting excessively or receiving parenteral fluids). Periodic BUN and serum creatinine determinations should be made, especially in the elderly, diabetics or those with suspected or confirmed renal insufficiency. Watch for signs of impending coma in severe liver disease. If spironolactone is used concomitantly, determine serum K⁺ frequently; both can cause K⁺ retention and elevated serum K⁺. Two deaths have been reported with such concomitant therapy (in one, recommended dosage was exceeded, in the other serum electrolytes were not properly monitored). Observe regularly for possible blood dyscrasias, liver damage, other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving triamterene, and leukopenia, thrombocytopenia, agranulocytosis, and aplastic anemia have been reported with thiazides. Triamterene is a weak folic acid antagonist. Do periodic blood studies in cirrhotics with splenomegaly. Anti-hypertensive effect may be enhanced in post-sympathectomy patients. Use cautiously in surgical patients. The following may occur: transient elevated BUN or creatinine or both, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), hyperuricemia and gout, digitalis intoxication (in hypokalemia), decreasing alkali reserve with possible metabolic acidosis. 'Dyazide' interferes with fluorescent measurement of quinidine.

Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth; anaphylaxis, rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting, diarrhea, constipation, other gastrointestinal disturbances. Necrotizing vasculitis, paresthesias, icterus, pancreatitis, xanthopsia and, rarely, allergic pneumonitis have occurred with thiazides alone.

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Pylorospasm has almost totally blocked passage of barium meal.



Barium meal beginning to pass 10 minutes after intramuscular injection of 20 mg. Bentyl.

"The correlation of spasm relief and drug given was excellent."

*This drug has been classified "probably" effective in treating functional bowel/irritable bowel syndrome

†See Warnings, Precautions and Adverse Reactions.

See following page for prescribing information.

Reference:

King, J.C. and Starkman, N.M.: Evaluation of an antispasmodic. Double-blind evaluation to control gastrointestinal spasms occurring during radiographic examination. A preliminary report. Western Med. 5:356-358, 1964.

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Brief Summary

INDICATIONS

Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FDA has classified the following indications as "probably" effective

For the treatment of functional bowel/irritable bowel syndrome (irritable colon, spastic colon, mucous colitis) and acute enterocolitis

THESE FUNCTIONAL DISORDERS ARE OFTEN RELIEVED BY VARYING COMBINATIONS OF SEDATIVE, REASSURANCE, PHYSICIAN INTEREST, AMELIORATION OF ENVIRONMENTAL FACTORS

For use in the treatment of infant colic (syrup).

Final classification of the less-than-effective indications requires further investigation

CONTRAINDICATIONS Obstructive uropathy (for example, bladder neck obstruction due to prostatic hypertrophy); obstructive disease of the gastrointestinal tract (as in achalasia, pyloroduodenal stenosis, paralytic ileus, intestinal atony of the elderly or debilitated patient, unstable cardiovascular status in acute hemorrhage, severe ulcerative colitis, toxic megacolon complicating ulcerative colitis, myasthenia gravis. **WARNINGS** In the presence of a high environmental temperature, heat prostration can occur with drug use (fever and heat stroke due to decreased sweating). Diarrhea may be an early symptom of incomplete intestinal obstruction, especially in patients with ileostomy or colostomy. In this instance treatment with this drug would be inappropriate and possibly harmful. Bentyl may produce drowsiness or blurred vision. In this event, the patient should be warned not to engage in activities requiring mental alertness such as operating a motor vehicle or other machinery or perform hazardous work while taking this drug. **PRECAUTIONS** Although studies have failed to demonstrate adverse effects of dicyclomine hydrochloride in glaucoma or in patients with prostatic hypertrophy, it should be prescribed with caution in patients known to have or suspected of having glaucoma or prostatic hypertrophy. Use with caution in patients with Autonomic neuropathy. Hepatic or renal disease. Ulcerative colitis. Large doses may suppress intestinal motility to the point of producing a paralytic ileus and the use of this drug may precipitate or aggravate the serious complication of toxic megacolon. Hyperthyroidism, coronary heart disease, congestive heart failure, cardiac arrhythmias, and hypertension. Hiatal hernia associated with reflux esophagitis since anticholinergic drugs may aggravate this condition.

Do not rely on the use of the drug in the presence of complication of biliary tract disease. Investigate any tachycardia before giving anticholinergic (atropine-like) drugs since they may increase the heart rate. With overdosage, a curare-like action may occur. **ADVERSE REACTIONS** Anticholinergics/antispasmodics produce certain effects which may be physiologic or toxic depending upon the individual patient's response. The physician must delineate these. Adverse reactions may include xerostomia, urinary hesitancy and retention, blurred vision and tachycardia, palpitations, mydriasis, cycloplegia, increased ocular tension, loss of taste, headache, nervousness, drowsiness, weakness, dizziness, insomnia, nausea, vomiting, impotence, suppression of lactation, constipation, bloated feeling, severe allergic reaction or drug idiosyncrasies including anaphylaxis, urticaria and other dermal manifestations, some degree of mental confusion and/or excitement, especially in elderly persons; and decreased sweating. With the injectable form there may be a temporary sensation of lightheadedness and occasionally local irritation. **DOSAGE AND ADMINISTRATION** Dosage must be adjusted to individual patient's needs.

Usual Dosage Bentyl 10 mg capsule and syrup **Adults** 1 or 2 capsules or teaspoonfuls syrup three or four times daily. **Children** 1 capsule or teaspoonful syrup three or four times daily. **Infants** ½ teaspoonful syrup three or four times daily. (May be diluted with equal volume of water.) Bentyl 20 mg **Adults** 1 tablet three or four times daily. Bentyl Injection **Adults** 2 ml (20 mg) every four to six hours intramuscularly only. **NOT FOR INTRAVENOUS USE.** **MANAGEMENT OF OVERDOSE:** The signs and symptoms of overdose are headache, nausea, vomiting, blurred vision, dilated pupils, hot, dry skin, dizziness, dryness of the mouth, difficulty in swallowing, CNS stimulation. Treatment should consist of gastric lavage, emetics, and activated charcoal. Barbiturates may be used either orally or intramuscularly for sedation but they should not be used if Bentyl with Phenobarbital has been ingested. If indicated, parenteral cholinergic agents such as Urecholine® (bethanechol chloride USP) should be used.

Product Information as of October, 1978

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for the Advancement of Psychiatry in honor of Sol W. Ginsburg, the group's first chairman and former president.

As a Ginsburg Fellow, Pool will participate in group activities that include the application of psychiatric studies to mental health and human relations.

* * *

Dr. Arthur H. Lockwood, anatomy, Cancer Research Center, presented "Molecular Control of Cell Form and Division" at State University of New York, Stonybrook Medical Center. Lockwood spoke at The Cold Spring Harbor Meeting on the cytoskeleton, May 16-20.

* * *

Dr. James N. Hayward, neurology, presented "Functional and Morphological Aspects of Hypothalamic Neurons" to the pre-doctoral students and faculty in the Departments of Anatomy, Neurology, Neuroscience, Physiology and Radiation Biology at the University of Rochester in New York.

* * *

Several faculty and staff attended a seminar in Raleigh on "Recent Advances in Laboratory Animal Technician." The Sixth Annual District IV seminar was sponsored by the Research Triangle branch of the American Association for Laboratory Animal Science.

UNC-CH participants were: Richard E. Carter, surgery laboratory, Division of Animal Medicine; Dr. Philip T. Johnson, assistant director, Division of Laboratory Animal Medicine, comparative pathology and campus veterinarian; Dr. Paul Le Blanc, research associate, Cancer Research Center, and Katherine Mohr, research analyst.

William H. Brown, laboratory animal facilities manager, Division of Laboratory Animal Medicine, was publicity chairman for the seminar. Dr. James R. Pick, comparative pathology and director, Division of Laboratory Animal Medicine, chaired a session on "Techniques for Computer Data Collection and Information Processing In Biomedical Research." Richard A. Carter, laboratory animal facilities manager, pathology, chaired a session of "Laboratory Animal Technicians Workshop — Part 1."

* * *

A prominent nephrologist from the University of North Carolina at Chapel Hill has co-edited a two-volume reference work updating eight years of research and clinical advances into kidney disease.

The third edition of Strauss and Welt's *Diseases of the Kidney*, published in March by Little, Brown and Co., is designed as a reference guide for internists, nephrologists, physicians-in-training and medical students.

Editors Dr. Carl W. Gottschalk, Kenan professor of medicine at the UNC-CH School of Medicine, and Dr. Laurence E. Earley, chairman of the Department of

Medicine at the University of Pennsylvania, call the work "a contemporary coverage of the diseases of the kidney and disturbances of body fluids." Earley is a graduate of the UNC-CH medical school and a recipient of its Distinguished Service Award.

The volumes update the work, first published 16 years ago, which helped establish nephrology as a subspecialty of medicine, Gottschalk said.

Its first editors were Dr. Maurice B. Strauss and Dr. Louis G. Welt, one of the original faculty members of the four-year UNC-CH medical school who was the second chairman of its Department of Medicine.

The latest edition includes such new advances as nuclear techniques in diagnosing kidney disease and more recent understanding of kidney function and disease, including discussions of treatments for end stage renal disease through dialysis and kidney transplants. Gottschalk was instrumental in the national planning for dialysis and kidney transplantation treatments for patients with kidney disease.

The edition contains 48 chapters authored by 61 physicians including the editors and several UNC-CH physicians.

The editors are internationally-known for their respective work into the understanding of the kidney.

One of the world's foremost kidney researchers, Gottschalk, a renal physiologist, is known for his pioneering development of micropuncture techniques that have shed light on how the kidney functions in humans in normal and diseased states.

Earley, well known for his clinical work in kidney diseases, has helped to broaden the understanding of kidney dysfunction.

* * *

A professor in the UNC-CH School of Dentistry has received a 12-month, \$10,000 American Cancer Society grant to develop a method of detecting the most prevalent form of acute leukemia in adults.

Dr. Jacob Hanker, professor of oral biology in the Dental Research Center, oral surgery in the School of Dentistry and neurobiology in the School of Medicine and a member of the UNC-CH Cancer Research Center, said the method appears to be the simplest and most accurate way to detect and diagnose acute myelogenous leukemia, a malignancy of the bone marrow. He said the test could improve chances for early detection and containment of the disease. Hanker has discovered that a particle in leukemic white blood cells, called a phi body, disappears as the symptoms of myelogenous leukemia abate and reappears with a relapse. Hanker hypothesizes that phi bodies, so named because their spindle shape resembles the Greek letter Phi, may be a marker for the disease.

* * *

Vitamin D must be converted into an active form before the body can use it. Whether or not an unborn baby depends on its mother for this conversion is the focus of a study by Dr. T. Kenney Gray, associate

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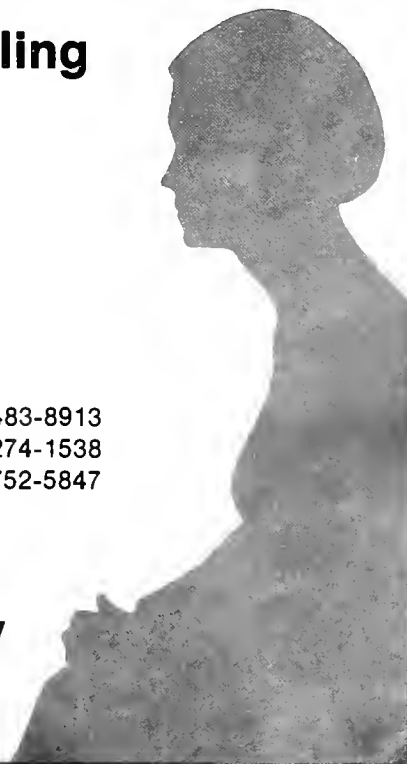
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founded in 1903



professor of medicine and pharmacology at the UNC-CH School of Medicine.

Gray has received a \$14,000 March of Dimes birth defects research grant to study how vitamin D is converted and used during pregnancy. His findings may help prevent and treat defective bone and tooth formation and serious calcium deficiency in newborns. In children and adults, the active forms of vitamin D regulate the absorption of calcium from food in the intestines. He will test the hypothesis that the placenta, like a child's or adult's intestinal tissue, requires vitamin D to regulate passage of calcium to the fetus.

* * *

Katherine B. Nuckolls, professor and chairman of primary care at the UNC-CH School of Nursing, has been appointed to the Select Panel for the Promotion of Child Health under the U.S. Department of Health, Education and Welfare.

HEW Secretary Joseph A. Califano, Jr., appointed the 17-member committee in March, during this International Year of the Child, "to develop a comprehensive national child health policy."

* * *

Dr. Tom S. Miya, dean of the School of Pharmacy at the University of North Carolina at Chapel Hill, has been elected president of the Society of Toxicology.

Miya, who last year was program chairman of the 1,000-member organization, took office in May. Miya holds a joint appointment as professor of pharmacy and professor of pharmacology in the School of Medicine.

Miya was elected to the one-year post during the society's annual meeting March 11-16 in New Orleans. He said the purpose of the organization is to "promote the acquisition and utilization of knowledge in toxicology and to facilitate the exchange of information among members as well as among investigators of other scientific disciplines."

AMERICAN COLLEGE OF CARDIOLOGY

Dr. Marvin M. McCall of Charlotte, American College of Cardiology Governor for the state of North Carolina, announced that the following physicians

have become Fellows: Dr. Robert P. Rieker of Winston-Salem, Dr. Richard A. Weintraub of Greensboro, and Dr. J. Allen Whitaker, III, of Wilson.

NATIONAL CANCER PROGRAM SPECIAL COMMUNICATION

Cigarette smoking remains the single greatest preventable cause of death and disability in the United States today. In 1977, smoking was a major factor in an estimated 220,000 deaths from heart disease; 78,000 lung cancer deaths; 22,000 deaths from other cancers, including cancers of the mouth, esophagus, pancreas, kidney and bladder. Forty percent of all cancers in males, and a rapidly increasing percentage in females, are caused by smoking. Eighty-five percent of deaths from bronchitis, emphysema and other lung diseases could be prevented if people stopped smoking.

Fortunately, a recent study has shown that 9 out of 10 smokers want to quit. The large majority indicate they would quit if their physicians told them to. And studies confirm that many smokers have quit upon advice from their physicians. However, about two-thirds of smokers report that they have never received advice on quitting from their physicians.

To help physicians encourage quitting by their patients, the National Cancer Institute has developed the "Helping Smokers Quit" kit. The kit contains enough materials to assist 50 smokers who want to quit.

The kit can make a major contribution to your efforts to prevent cancer and other chronic diseases among your patients. The kit is being provided free of charge to all physicians who want to participate in this important preventive health effort.

Requests for free "Helping Smokers Quit" kits should be directed to:

Helping Smokers Quit Kit
Dept. K-68
National Cancer Institute
Bethesda, Maryland 20205

ARTHUR C. UPTON, M.D., DIRECTOR
National Cancer Institute
National Cancer Program

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Does it influence your choice of a peripheral/cerebral vasodilator*?

Vasodilan—compatible with coexisting diseases (e.g., glaucoma, diabetes)

Vasodilan has not been reported to affect the course of coexisting disease; it has not been reported to affect blood sugar levels or to raise intraocular pressure.

Vasodilan—compatible with concomitant therapy

Vasodilan has not been reported to affect the treatment of coexisting disease; it is compatible with such drugs as hypoglycemics and miotics.

Vasodilan—compatible with your total regimen for vascular insufficiency

Vasodilan can be a valuable adjunct in planning a total therapeutic program for vascular insufficiency.

Indications: Based on a review of this drug by the National Academy of Sciences-National Research Council and/or other information, the FDA has classified the indications as follows:

Possibly Effective:

1. For the relief of symptoms associated with cerebral vascular insufficiency
2. In peripheral vascular disease of arteriosclerosis obliterans, thromboangiitis obliterans (Buerger's Disease) and Raynaud's disease

Final classification of the less-than-effective indications requires further investigation.

Composition: Vasodilan tablets, isoxsuprine HCl, 10 mg. and 20 mg. Vasodilan injection, isoxsuprine HCl, 5 mg., per ml.

Dosage and Administration: Oral: 10 to 20 mg., three or four times daily. Intramuscular: 5 to 10 mg. (1 or 2 ml.) two or three times daily. Intramuscular administration may be used initially in severe or acute conditions.

Contraindications and Cautions: There are no known contraindications to oral use when administered in recommended doses. Should not be given immediately postpartum or in the presence of arterial bleeding.

Parenteral administration is not recommended in the presence of hypotension or tachycardia.

Intravenous administration should not be given because of increased likelihood of side effects.

Adverse Reactions: On rare occasions oral administration of the drug has been associated in time with the occurrence of hypotension, tachycardia, nausea, vomiting, dizziness, abdominal distress, and severe rash. If rash appears the drug should be discontinued.

Although available evidence suggests a temporal association of these reactions with isoxsuprine, a causal relationship can be neither confirmed nor refuted.

Administration of single dose of 10 mg. intramuscularly may result in hypotension and tachycardia. These symptoms are more pronounced in higher doses. For these reasons single intramuscular doses exceeding 10 mg. are not recommended. Repeated administration of 5 to 10 mg. intramuscularly at suitable intervals may be employed.

Supplied: Tablets, 10 mg., bottles of 100, 1000, 5000 and Unit Dose, Tablets, 20 mg., bottles of 100, 500, 1000, 5000 and Unit Dose, Injection, 10 mg. per 2 ml. ampul, box of six 2 ml. ampuls.

U.S. Pat. No. 3,056,836



VASODILAN[®] 20-mg tablets

(ISOXSUPRINE HCl)

20 mg q.i.d. recommended dosage

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PHARMACEUTICAL DIVISION

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he's effectively
maintained on

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- theophylline for effective
around-the-clock
bronchodilator therapy
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Warnings: Do not administer more frequently than every 6 hours, or within 12 hours after rectal dose of any preparation containing theophylline or aminophylline. Do not give other compounds containing xanthine derivatives concurrently.

Precautions: Use with caution in patients with cardiac disease, hepatic or renal impairment. Concurrent administration with certain antibiotics, i.e., clindamycin, erythromycin, troleandomycin, may result in higher serum levels of theophylline. Plasma prothrombin and factor V may increase, but any clinical effect is likely to be small. Metabolites of guaifenesin may contribute to increased urinary 5-hydroxyindoleacetic acid readings, when determined with nitrosonaphthal reagent. Safe use in pregnancy has not been established. Use in case of pregnancy only when clearly needed.

Adverse Reactions: Theophylline may exert some stimulating effect on the central nervous system. Its administration may cause local irritation of the gastric mucosa, with possible gastric discomfort, nausea, and vomiting. The frequency of adverse reactions is related to the serum theophylline level and is not usually a problem at serum theophylline levels below 20 mcg/ml.

How Supplied: Capsules in bottles of 100 and 1000 and unit-dose packs of 100; Liquid in bottles of 1 pint and 1 gallon.

See package insert for complete prescribing information.

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Report on Litigation to the House of Delegates, American Medical Association Part II

Delivered by Newton H. Minow
Chicago, Illinois
December 3, 1978

IN the cases discussed thus far, our adversary has been an agency of the federal government. I turn now to another set of cases in which the association is involved. Here, our opponent is not the government but a number of individual chiropractors. These chiropractors have brought actions against the AMA and several other defendants in three different forums — federal court in Philadelphia, state court in New Jersey and federal court in Chicago.

All three of these actions have several features in common. Each is brought under antitrust laws which declare it unlawful for two or more persons to combine or conspire to restrain competition. Plaintiffs in each case contend that by declaring it unethical to associate professionally with unscientific practitioners, physicians have combined to prevent chiropractors from competing within the limits of their licenses. More specifically, plaintiffs in each case take the position that physicians have conspired to restrain competition by uniformly denying chiropractors access to the use of diagnostic procedures that they require in order to practice within the scope of their license.

At the same time, the three actions differ from one another in some respects. The Pennsylvania and New Jersey cases are each brought by local chiropractors concerned with local conditions. The Chicago case, by contrast, is brought by chiropractors from different parts of the United States. They appear to be concerned primarily with the effect of various medical society positions on chiropractic as a whole. Thus, the relief they seek is infinitely more sweeping than that sought by plaintiffs in Pennsylvania and New Jersey. They have asked, for example, for millions of dollars in damages and for one million dollars for each of the next ten years to establish and operate a research institute for the advancement of chiropractic.

Finally, the three cases have this in common: The defense of each lawsuit has required a heavy financial outlay by this association, which because of its size and public visibility is inevitably viewed as the principal defendant. The expenditure of resources that has occurred until now will be dwarfed by the expenses that will be incurred if the cases go to trial. Moreover, any adverse decision against the AMA in a litigated case will in all likelihood provoke treble damages lawsuits against the association and against the state and local medical societies by chiropractors throughout the country.

In view of the costs and risks of these lawsuits, we believe that the most responsible course is to explore settlement on reasonable terms — just as we would explore settlement of any case of this nature. In fact, as you know, a tentative settlement agreement has been reached by the association in the Philadelphia case. Under the terms of this tentative settlement, the AMA acknowledges simply that each individual physician must decide for himself or herself whether and in what circumstances to accept referrals from a chiropractor. It acknowledges that chiropractors are licensed limited practitioners as that term is used in the *Opinions and Reports of the Judicial Council*.

The association is represented by a different local law firm in each of these chiropractic cases. Our firm has acted in an overview advisory capacity to the AMA in these suits. We have carefully reviewed the tentative settlement in light of the applicable law. On the basis of this review, we conclude that this settlement is a reasonable one and is in the best interests of the association. Our opinion on this matter is shared by the able Philadelphia law firm which represents the association in this case on a day-to-day basis.

Four specialty societies and some individual physi-

cians, however, disagree with our assessment. Representatives of these societies feel so strongly about this subject that they have taken legal steps to try to prevent finalization of the settlement. While we respect their views, our own independent judgment differs from their opinion.

As we understand it, the position of these speciality societies is based on three concerns. First, the societies believe that an acknowledgement that chiropractors are licensed limited practitioners would give chiropractic legitimacy as a healing art. Second, they fear that settlement of the Philadelphia case would have an adverse effect on the defense of the Chicago case. Third, they contend that the tentative settlement would violate Principle 3 of the Principles of Medical Ethics, which provides that a physician shall not "associate professionally" with anyone who practices a method of healing not founded on a scientific basis. These are very important and deeply felt concerns, all of which deserve respect — and answers.

First, in acknowledging that chiropractors are licensed limited practitioners, the settlement merely recognizes the fact that chiropractors have been licensed under the law of every state to perform certain limited procedures prescribed by state law. Much as we might wish it otherwise, the state legislatures in all fifty states have already considered chiropractors as licensed limited practitioners. The tentative settlement in no way changes the legal status of chiropractors.

Moreover, it is basic to understand that the settlement terms agreed upon by the AMA in no way obligate any physician to have any contact whatsoever with any chiropractor. If an individual physician considers chiropractors to be unscientific cultists, as far as the AMA is concerned that physician need never accept a referral from a chiropractor. Indeed, anyone who sought to force a physician to treat patients sent by a chiropractor, be it the government, a hospital board, or a group of individuals, would be acting contrary to the AMA position.

Second, both in our judgment and that of the lawyers representing the association in Philadelphia and in Chicago, the settlement does not jeopardize the defense of the Chicago case. It does not in any way constitute an admission that the AMA has violated the law. In fact, it makes no statement about legal liability. What it does do is make clear that the AMA's position is that it is up to the individual physician to decide whether or in what circumstances to accept patients sent by chiropractors. If anything, therefore, the settlement helps our defense in Chicago because this position is far easier to defend under the antitrust laws than is a blanket prohibition on accepting referrals in any circumstances. Moreover, the tentative settlement removes the possibility of an adverse ruling in the Philadelphia case. In this connection, we are of the opinion that your Board of Trustees has appropriate authority to settle lawsuits when it believes that settlement is in the best interest of the association.

Third, the settlement is, in our judgment, consistent with the prohibition in the Principles of Medical Ethics against associating professionally with an unscientific practitioner. The Judicial Council's interpretation of this prohibition declares it unethical for a physician to enter a course of treatment jointly with an unscientific practitioner. It does not interpret the principles to forbid accepting a referral from such an individual and thereafter dealing with the patient exclusively. As I read the principles as interpreted by the Judicial Council, the tentative settlement is in complete accord with the association's policy that a physician may accept a referral from an unscientific practitioner as long as the physician doesn't undertake a course of treatment together with such practitioner.

Under ordinary circumstances, a speaker's platform is not the best place for a lawyer to give advice to a client. But the circumstances facing the AMA today are not ordinary. I will therefore briefly discuss some of the antitrust implications of the chiropractic litigation.

Although the Sherman Antitrust Act was enacted in 1890, it was not until *Goldfarb v. Virginia State Bar Association, et al.* was decided in 1975 that the Supreme Court first declared that there was no "learned profession" exclusion from application of the act. As a result, physicians, lawyers — all professionals — are now subject to the Sherman Act. Under this act and analogous state statutes, a concerted refusal to have anything to do with certain providers of goods or services, under threat of disciplinary action, is a violation of Law.

Neither this House nor the Judicial Council has ever stated that a physician may not individually decide to accept as his or her patient a person sent for treatment or diagnosis by a chiropractor. As a matter of fact, if the AMA or any other medical organization threatened to discipline for unethical conduct members who accept patients referred by chiropractors, regardless of circumstance, that organization would be in direct violation of the Sherman Antitrust Act.

Chiropractic as a system of treating *all* disease by spinal manipulation or adjustment was described by the AMA House of Delegates in 1966 as an "unscientific cult" and a "hazard to rational health care." The AMA is clearly within its "first amendment" rights when it continues to express its concern about the danger of unscientific methods of treatment. But it should not take a position which would make it unethical for a member to decide individually to accept as a patient a person referred by a chiropractor.

As you know, Section 4 of the Principles of Medical Ethics requires physicians to "observe all laws." Judicial Council Opinion 3.70 is consistent with the law and reflects the long-standing position of the AMA both prior to the *Goldfarb* decision in 1975 and since. We are unaware of a single instance in which a surgeon has been disciplined by the AMA or any medical society for performing surgery on a patient referred by a chiropractor. Nor are we aware of any radiologist or other physician who has been censured or ad-

monished for accepting for treatment or diagnostic services a patient sent by a chiropractor. This association should not now adopt a position contrary to law and contrary to its own ethics which require that physicians observe the law.

You are committed to improving people's health through scientific medicine. I share your outrage when innocent patients are exposed to unscientific practices contrary to their best interests. You who are devoted to the welfare of the patient must be appalled when state legislatures permit a system of treatment which runs directly contrary to this goal. But your concern for the patient and for quality care cannot lead you into positions that violate the law — in this case, the antitrust laws — no matter how well-intentioned those positions are.

* * *

In June of 1977, the Chairman of the Federal Trade Commission said: "The Federal Trade Commission is not a health or medical agency. To paraphrase a president who was hardly our patron saint, Calvin Coolidge, 'The business of the FTC is business.' And we recognize, along with most Americans, that the delivery of health care is business, an industry of vast proportions and vital effect. Health care has become


our business. I have no apologies for that; in fact, one might ask: 'What took the FTC this long?' "

As men and women trained in a noble and learned profession, you are on notice that parts of our government claim that the medical profession is not a profession but a business — and that health care is now the FTC's business. At a time when the president and many members of Congress are saying that our country is over-regulated, the FTC wants to regulate the practice of medicine. I read you one ominous sentence from the decision of the FTC Administrative Law Judge: "*Respondents will be permitted to participate in setting ethical guidelines for the conduct of their members after first obtaining permission and approval of the Federal Trade Commission.*"

So 1984 has arrived in 1978. You, the members of an ancient and honored profession, are not even to participate in setting your own ethical standards without first getting the permission and approval of the federal government. I don't have to tell you how much is at stake here, fundamental principles far beyond this particular case.

I serve in another cause with Dallin H. Oaks, president of Brigham Young University, who is also a leader of the American Association of Independent Colleges and Universities. President Oaks said a few

After specializing in the treatment of alcoholism and drug addiction for 17 years, we found . . .



**if there
are problems
and there
is drinking...
drinking
may be the
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The Maker

Examining a Few Myths About Prescribing.

Increasing pressure is being put on the practicing physician to prescribe drugs generically. You are told that brand-name products are universally "expensive" and generic versions are relatively "cheap." To make this case, the most extreme (rather than typical) price differentials are cited. Thus, consumers are led to believe that such differentials are commonplace. Even your knowledge and your motives as a physician are questioned.

Understandably, these views have created myths. We think it's time to examine them in the light of all the facts and ramifications.



MYTH: There are no differences in quality and performance between brand-name products and their generic counterparts. The corollary is that there are no differences among products made by high-technology, quality-conscious, research-based companies and those made by commodity-type suppliers.

FACT: The Food and Drug Administration does a good job in monitoring a generally excellent drug supply. Still, it has nowhere near the resources to guarantee the quality and bioavailability of all marketed products at any given time. Just a few months ago, for example, it noted that batches of tetracycline HCl capsules which met official monograph requirements were

not bioequivalent to a reference product. As you know, there is substantial literature on this subject affecting many drugs, including such antibiotics as tetracycline and erythromycin. The record of drug recalls and court actions affirms strongly that there are differences among pharmaceutical companies and their products. Research-intensive companies have far better records than those that do no research and may practice minimum quality assurance.

MYTH: Industry favors only "expensive" brand names and denigrates all generics.

FACT: PMA companies make 90 to 95 percent of the drug supply, including, therefore, most of the generics. Drug nomenclature is not the important point; it's the competence of the manufacturer and the integrity of the product that count

Matters.

MYTH: Generic options always exist.

FACT: About 55 percent of prescription drug expenditure is for single-source drugs. This means, of course, that for 45 percent of such expenditure, is a generic prescribing option available.

MYTH: Generic prescriptions are filled with expensive generics, thus costing consumers large sums of money.

FACT: Market data show that you invariably prescribe—and pharmacists dispense—both brand and generically labeled products from known and trusted sources, in the best interests of patients. In most cases the patient receives a proven brand product. Savings from voluntary mandated generic prescribing are grossly exaggerated.

MYTH: Drugs account for a major portion of the rise in health care costs.

FACT: Drugs represent a very small part of such costs. The amount of the health care dollar spent for prescription drugs was about 12 cents in 1967; today it is about 8 cents. And you as a physician are most conscious of how drug therapy can cut hospitalization, avert surgery, reduce office visits and keep patients on the job.

MYTH: Government intrusions into the marketplace will save tax money.

FACT: Government schemes always cost the taxpayer something, and the costs often exceed the benefits. Certainly, any federal "help," such as lists of wholesale drug prices sent to all physicians and pharmacists, will be no exception. Just think of the expense of keeping them current! Moreover, wholesale prices are poor guides to actual transaction prices and even worse guides to retail prices.

The PMA Position

We believe your freedom to prescribe, either by generic or brand name, should be totally unabridged. Otherwise, your prescribing prerogatives and your relationships with patients will be seriously impaired.

The maker does matter

After the myths about price and equivalency have been shattered, one fact stands out more clearly than ever: *The maker does matter.* As always, your best guide to drug therapy for your patients is to select products—both brands and generics—from manufacturers with credentials and performance records you have come to respect.

The logo for the Pharmaceutical Manufacturers Association (PMA), consisting of the letters 'PMA' in a bold, stylized, sans-serif font.

Pharmaceutical Manufacturers Association
1155 Fifteenth Street, N.W.
Washington, D.C. 20005

months ago: "I contend that government authorities need to be just as careful about regulating schools, colleges, and universities as they are about interferences with newspapers, public meetings or any other delivery mechanism for the products of free speech. As the essential transmitters of our culture and as the source, teacher, and practitioner of values in our society, schools, colleges and universities must be assured a wide range of freedom for their activities of discovery, advocacy, and practice."

The same observation is true with respect to the practice of medicine. The freedom to practice medi-

cine is at stake, not only for yourself, but for your patients and for future physicians and future patients. It is essential that all of you remain united to preserve your freedom — and the freedom of your patients. I am proud to carry on the battle to maintain professionalism, for it is a just one.

In accepting the Nobel Prize for literature, William Faulkner declared, "I believe that man will not merely endure: He will prevail." In acting as counsel to this great association, I share Faulkner's faith. I believe that as long as it stands together, the medical profession will not merely endure. It will prevail.

In Memoriam

CLAUD LARNIE STEPHENS, JR., M.D.

Claud Larnie Stephens, Jr., was born in Fayetteville on March 16, 1932, and departed this life March 8, 1979, in Duke Medical Center in Durham.

Born a "son of the parsonage," while his father was the minister of St. Luke A.M.E. Church, Claud made a profession of Christian faith at an early age and all throughout his formative years and his teens, he gave of his best, including service as church organist during his high school years. He never forgot his church, and at the time of his passing, he was a member of the Senior Trustee Board, president of the Methodist Men, and commissioner of the Boy Scouts at St. Luke. Up to the very end, he was working hard to help see the new St. Luke building rise. He also served his church as a short-term medical missionary in Africa.

"Doc," as he was affectionately called, graduated as valedictorian of the class of '49 from E. E. Smith High School in Fayetteville. Out of intense conviction and a desire to help his fellow man, he expressed a profound interest in pursuing the study of medicine and after his secondary education, he entered North Carolina Central University at Durham, where he received the B.S. degree, cum laude, in 1953. He received his M.D. at Howard University with special honors for obstetric and gynecological studies. After an internship at Western Pennsylvania Hospital in Pittsburgh, he returned to North Carolina, where he entered residency training in internal medicine at the Kate Bitting Reynolds Hospital in Winston-Salem. He then became engaged in the practice of medicine through the Benevolent Societies Hospital, Kingstree, South Carolina, where for more than 13 years, in association with a classmate, Dr. Samuel V. Johnson, he distinguished himself as a physician. While in South Carolina, he was involved in many civic ac-

tivities and ran for the U.S. House of Representatives. He later returned to Fayetteville and organized a practice under the name of University Medical Associates, P.A.

Devoted to family and friend alike, Dr. Stephens gave all that he had to make the lives that he touched brighter and more beautiful.

CUMBERLAND COUNTY MEDICAL SOCIETY

WALTER ALLEN SIKES, M.D.

Walter Allen Sikes was born on January 4, 1913, in Augusta, Georgia. He graduated from the Medical College of Georgia as an M.D. in 1946 and interned at the University Hospital in Augusta, Georgia, from 1950 until 1951. His psychiatric residency training was first at the State Hospital at Newton, Connecticut, from 1951 until 1952. He then transferred to Dorothea Dix Hospital at Raleigh, North Carolina, where he was one of the first two psychiatric residents in the residency program there from 1952 until 1954. He had previous psychiatric experience while working on the staff at the State Hospital at Milledgeville, Georgia, as a staff physician from April 1946 to January 1948 and from December of 1949 until July 1, 1950. He was a captain in the Medical Corps of the U.S. Army stationed at the Phoenixville, Pennsylvania, Hospital from 1948 until December 1949. After completing his residency, Dr. Sikes became superintendent of the Dorothea Dix Hospital in Raleigh in July 1954 and held that job until July 1966.

During those years, he extended the residency training program from a two-year program to three and was instrumental in establishing a liaison between the psychiatric residency training programs of Dorothea Dix Hospital and the Department of Psychiatry of the School of Medicine in Chapel Hill. He

established the medical library and initiated psychiatric services for children at Dorothea Dix Hospital and, in 1965, he successfully accomplished a program of racial integration at the hospital.

Dr. Sikes' particular clinical interest was forensic psychiatry and he held teaching rounds in Spruill Building twice weekly over many years. He was intensely interested in all the staff of Dorothea Dix Hospital and had a particularly close relationship with the psychiatric staff.

In January, the medical staff of the hospital renamed the Learning Resource Center for Dr. Sikes.

Dr. Sikes also had several academic appointments — clinical assistant professor, UNC School of Medicine, 1954-1962; clinical associate professor of psychiatry, UNC School of Medicine, 1962-1964; clinical assistant professor of psychiatry, Bowman Gray School of Medicine, 1961-1963. He was certified by the American Board of Psychiatry and Neurology in 1955. He was a member of Alpha Omega Alpha, the American Medical Association, and the American Psychiatric Association, of which he became a Fellow in 1958. He was President of the North Carolina Neuropsychiatric Association in 1959 and chief of the psychiatric staff of Wake Memorial Hospital and the psychiatric ward at Medcenter in 1958.

Dr. Sikes entered the private practice of psychiatry in Raleigh in August 1966 and maintained this practice until shortly before he entered the hospital for his terminal illness in late December 1978.

Dr. Sikes was a warm, compassionate man and teacher. He had an extremely sharp and delightful sense of humor which he maintained until the very end.

RALEIGH ACADEMY OF PSYCHIATRY

ALLAN WALMSLEY GRAY, M.D.

Dr. Allan W. Gray died instantly in an automobile accident on November 21, 1978, at age 36. He was born in Forest Hills, New York, on September 21, 1942. He was graduated from both the undergraduate and medical schools of the University of North Carolina and completed his internship at Norfolk General Hospital, Norfolk, Virginia, in 1969, and his residency in anesthesia at North Carolina Memorial Hospital in Chapel Hill in 1971. He served two years at the U.S. Naval Hospital in Jacksonville, Florida. Dr. Gray began private practice in Lumberton in June, 1973.

His unfailing sense of duty and responsibility was the hallmark of his professional and personal life.

ROBESON COUNTY MEDICAL SOCIETY

YOUR SUPPORT IS NEEDED

CONTRIBUTE TO WORTHY PROJECTS

TAX DEDUCTIBLE

THE NORTH CAROLINA MEDICAL SOCIETY FOUNDATION, INC. was created in 1966 originally to receive funds for the construction of a new headquarters office in Raleigh. However, when other methods of financing a permanent building were devised, the role of the Foundation was changed. This change permitted the N. C. Medical Society Foundation to be approved as a charitable institution empowered to receive TAX EXEMPT contributions for the purposes of education and scientific advancement. The North Carolina Medical Society Foundation, Inc. has a 501(c) (3) letter from the Internal Revenue Service.

Among the contributions made to the Foundation since its inception have been:

- The Forsyth-Stokes Medical Auxiliary Benevolent and Educational Fund in 1971, and
- the assets of the Joseph Ward Hooper, Sr., Trust which were transferred to the Foundation in 1976.

While these examples of group contributions have been greatly appreciated, your individual support is badly needed. Today, after more than 12 years, the resources of the Foundation are still quite limited. As the financial resources grow, the opportunities to use these funds for worthy projects will increase and all of us will benefit by its success.

At this time the Foundation is prepared to:

- serve as a custodian of contributions designated by groups for special projects,
- receive direct contributions and donations of stock or general capital certificates of the Medical Liability Mutual Insurance Company, all TAX EXEMPT, and to
- accept from wills bequests which, properly defined, would not be taxable to the estate of the donor.

Please make your tax exempt contribution payable to: THE NORTH CAROLINA MEDICAL SOCIETY FOUNDATION, INC. and mail to:

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Raleigh, N. C. 27611

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COASTAL N.C. — Emergency Group — Immediate openings, new 150 bed acute hospital, 130,000 drawing area. Excellent outdoor recreation, competitive salaries. Contact W. Dennis Combs, Assistant Administrator, P.O. Box 1358, Jacksonville, N.C. 28540, telephone number (919) 353-1234, Ext. 372.

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The effectiveness of Valium (diazepam) in long-term use, that is, more than 4 months, has not been assessed by systematic clinical studies. The physician should periodically reassess the usefulness of the drug for the individual patient.

Contraindications: Tablets in children under 6 months of age, known hypersensitivity, acute narrow angle glaucoma, may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: As with most CNS-acting drugs, caution against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Withdrawal symptoms (similar to those with barbiturates, alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal/muscle cramps, vomiting, sweating). Keep addiction-prone individuals (drug addicts or alcoholics) under careful surveillance because of predisposition to habituation/dependence.

Usage in Pregnancy: Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations, as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.

ORAL: Advise patients against simultaneous ingestion of alcohol and other CNS depressants.

Not of value in treatment of psychotic patients, should not be employed in lieu of appropriate treatment. When using oral form adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increase in dosage of standard anticonvulsant medication, abrupt withdrawal in such cases may be associated with temporary increase in frequency and/or severity of seizures.

INJECTABLE: To reduce the possibility of venous thrombosis, phlebitis, local irritation, swelling, and, rarely, vascular impairment when used I.V., inject slowly, taking at least one minute for each 5 mg (1 ml) given, do not use small veins, i.e., dorsum of hand or wrist, use extreme care to avoid intra-arterial administration or extravasation. Do not mix or dilute Valium with other solutions or drugs in syringe or infusion flask. If it is not feasible to administer Valium directly I.V., it may be injected slowly through the infusion tubing as close as possible to the vein insertion.

Administer with extreme care to elderly, very ill, those with limited pulmonary reserve because of possibility of apnea and/or cardiac arrest, concomitant use of barbiturates, alcohol or other CNS depressants increases depression with increased risk of apnea, have resuscitative facilities available. When used with narcotic analgesic eliminate or reduce narcotic dosage at least 1/3, administer in small increments. Should not be administered to patients in shock, coma, acute alcoholic intoxication with depression of vital signs.

Has precipitated tonic status epilepticus in patients treated for petit mal status or petit mal variant status.

Withdrawal symptoms (similar to those with barbiturates, alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal muscle cramps, vomiting, sweating). Keep addiction-prone individuals under careful surveillance because of predisposition to habituation/dependence. Not recommended for OB use.

Efficacy/safety not established in neonates (age 30 days or less), prolonged CNS depression observed. In children, give slowly (up to 0.25 mg/kg over 3 minutes) to avoid apnea or prolonged somnolence, can be repeated after 15 to 30 minutes. If no relief after third administration, appropriate adjunctive therapy is recommended.

Precautions: If combined with other psychotropics or anticonvulsants, carefully consider individual pharmacologic effects—particularly with known compounds which may potentiate action of Valium (diazepam), i.e., phenothiazines, narcotics, barbiturates, MAO inhibitors and antidepressants. Protective measures indicated in highly anxious patients with accompanying depression who may have suicidal tendencies. Observe usual precautions in impaired hepatic function, avoid accumulation in patients with compromised kidney function. Limit oral dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation (initially 2 to 2½ mg once or twice daily, increasing gradually as needed or tolerated).

INJECTABLE: Although promptly controlled, seizures may return, readminister if necessary, not recommended for long-term maintenance therapy. Laryngospasm/increased cough reflex are possible during peroral endoscopic procedures, use topical anesthetic, have necessary countermeasures available. Hypotension or muscular weakness possible, particularly when used with narcotics, barbiturates or alcohol. Use lower doses (2 to 5 mg) for elderly/debilitated.

Adverse Reactions: Side effects most commonly reported were drowsiness, fatigue, ataxia. Infrequently encountered were confusion, constipation, depression, diplopia, dysarthria, headache, hypotension, incontinence, jaundice, changes in libido, nausea, changes in salivation, skin rash, slurred speech, tremor, urinary retention, vertigo, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances and stimulation have been reported, should these occur, discontinue drug.

Because of isolated reports of neutropenia and jaundice, periodic blood counts, liver function tests advisable during long-term therapy. Minor changes in EEG patterns, usually low-voltage fast activity, have been observed in patients during and after Valium (diazepam) therapy and are of no known significance.

INJECTABLE: Venous thrombosis, phlebitis at injection site, hypoaesthesia, syncope, bradycardia, cardiovascular collapse, nystagmus, urticaria, hiccups, neutropenia.

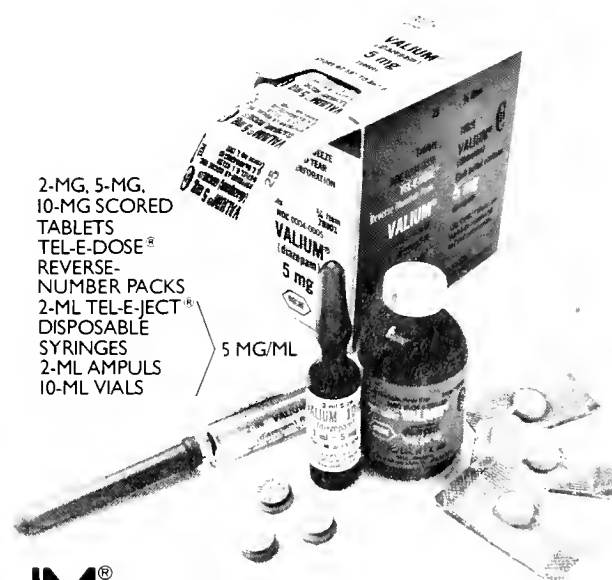
In peroral endoscopic procedures, coughing, depressed respiration, dyspnea, hyperventilation, laryngospasm, pain in throat or chest have been reported.

Management of Overdosage: Manifestations include somnolence, confusion, coma, diminished reflexes. Monitor respiration, pulse, blood pressure, employ general supportive measures, IV fluids, adequate airway. Use levetiracetam or metaraminol for hypotension, caffeine and sodium benzoate for CNS-depressive effects. Dialysis is of limited value.

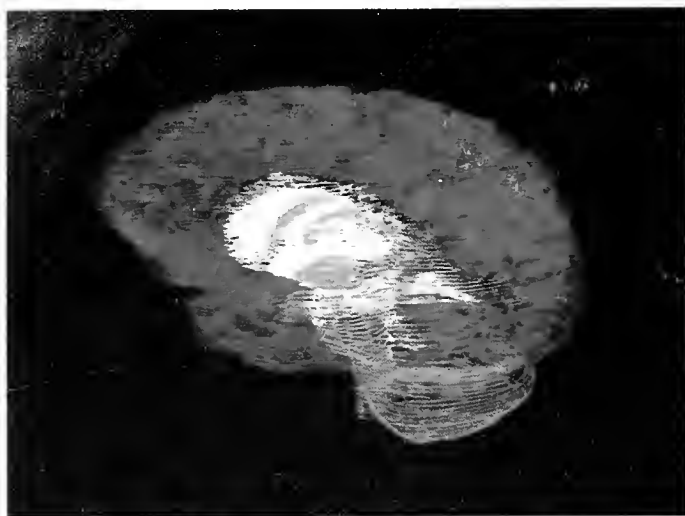
Supplied: Tablets, 2 mg, 5 mg and 10 mg, bottles of 100 and 500. Tel-E-Dose* (unit dose) packages of 100, available in trays of 4 reverse-numbered boxes of 25, and in boxes containing 10 strips of 10. Prescription Paks of 50, available singly and in trays of 10. Ampuls, 2 ml, boxes of 10. Vials, 10 ml, boxes of 1. Tel-E-Ject* (disposable syringes), 2 ml, boxes of 10. Each ml contains 5 mg diazepam, compounded with 40% propylene glycol, 10% ethyl alcohol, 5% sodium benzoate and benzoic acid as buffer, and 1.5% benzyl alcohol as preservative.



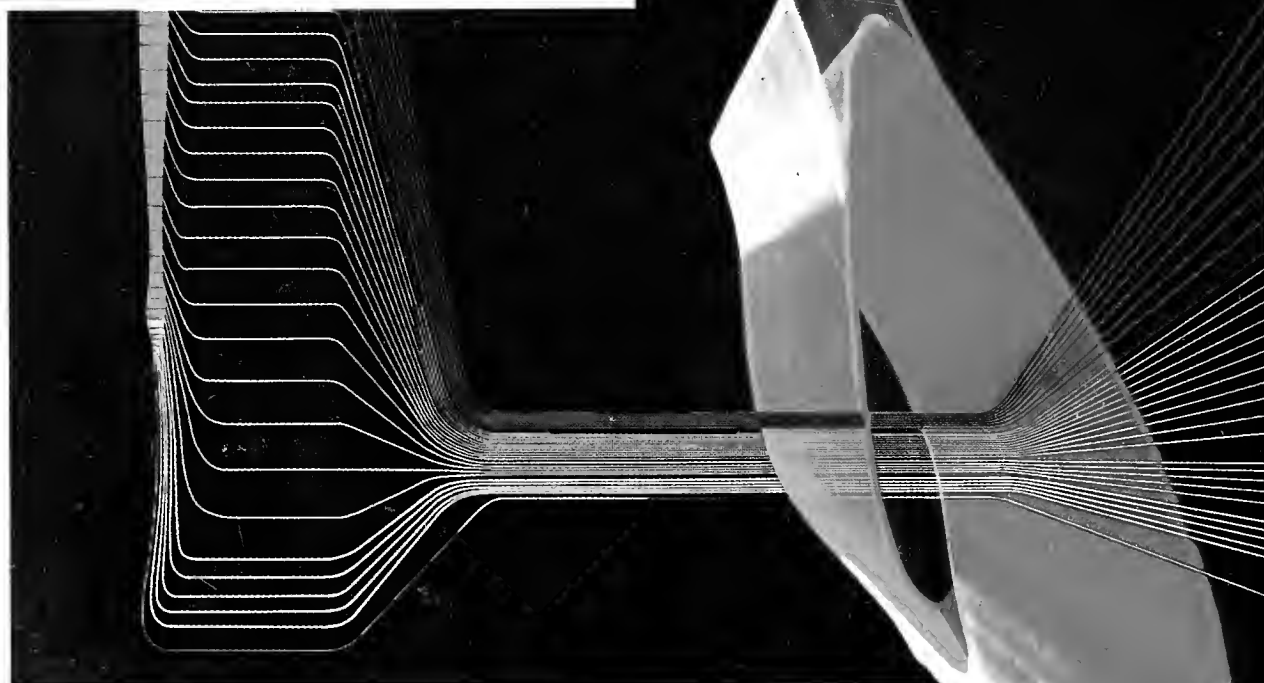
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